

Source Registration/Greenhouse Gas

INSTRUCTIONS

Detailed instructions for the online Source Registration and/or Greenhouse Gas Forms

21 September 2018

Massachusetts Department of Environmental Protection One Winter Street Boston, MA 02108-4746

Produced by Bureau of Air & Waste

This information is available in alternate format by calling our ADA Coordinator at 617-574-6872.

NOTICE: check the Source Registration web page for additional guidance and reference material https://www.mass.gov/guides/massdep-source-registration

srghg instructions_02162018.doc

Notice

From time to time MassDEP will publish SR Updates that clarify, add to, or amend these Instructions. The Updates are part of these instructions. You can find these Updates published at: https://www.mass.gov/guides/massdep-source-registration

2018: Facilities required to report Greenhouse Gas (GHG) Emissions used Climate Registry Information System (CRIS) software platform between 2009 and 2016. For the 2016 emissions year, MassDEP decided to combine GHG Reporting within the Source Registration (SR) Reporting package. As a result of this process, three different packages were created: SR Only, SRGHG, and GHG Only. Instructions for SR Only and SRGHG are combined in this document; GHG Only instructions are listed in a separate document.

NOTE: Information present is to be used for reporting both SR and GHG emissions except as noted.

HELP TEXT:

The "?" icons will reveal information about a particular portion of the form or question such as definitions, instructions, sources of assistance or information. Additional information about filling out these forms is available at the Source Registration and Greenhouse Gas Reporting Website:

https://www.mass.gov/guides/massdep-source-registration

Revision History

Clarification to AP1/2/4 form applicability	18 Apr 2007
Update to address User comments and concerns	16 Jan 2008
Clarification to Stack dimensions	30 July 2008
Correction to GHG reporting	8 May 2009
Corrections to cover and combined units	19 Mar 2011
Notes on filterable vs. condensable PM	28 Feb 2018
Added GHG Reporting, Order of SR questions changed to accommodate GHG Reporting	
	28 Feb 2018
Added (New) & Updated (Updated) sections highlighted in green	28 Feb 2018
Update to clarify emission units for GHG reporting	21 Sept 2018

CONTENTS

Notice	2
	2
Revision History	
OVERVIEW OF SOURCE REGISTRATION PROGRAM WITH GREENHOUSE GAS INFORMATION	30
Purpose of Source Registration (SR) Program	30
Purpose of Greenhouse Gas (GHG) Program	30
Who must file this form?	30
How many versions of this form are required?	
What if my facility is also required to report GHG emissions?	
What if my facility's classification changed, do I still report?	
Do I have to report if I did not receive a letter from MassDEP?	31
Why can't I login using my facility's TIN?	31
What units must be submitted?	31
Do I need to report small portable heating units or other small sources?	31
Do I report temporary emission units?	31
Do I need to report Nonroad Engines?	32
How should non-stationary units be reported?	32
What do you enter into the basis fields for restrictions if you don't have a permit?	32
Will MassDEP review what I have submitted?	
BAW AQ OVERVIEW FORM	
Purpose	
Who must file this form?	
How many versions of this form are required?	
Note for repeat filers	
A. Create a Source Registration Package	
1. Select existing or new facility:	
Existing Facilities	
Check if you added emission units or stacks since your last report	
New Facilities	
Note concerning "New Unit Creator Form (New Form Creator)" B. amend a PACKAGE	
1. Check if you need to	
2. Facility Name	
How to amend a previously submitted package	
Facility Information	
TES (Total Emissions Statement)	
New Unit Creator Form (New Form Creator)	
Emission Units	
BAW AQ NEW UNIT CREATOR FORM (NEW FORM CREATOR)	
Purpose	
Who must file this form?	
Note to new facilities or first time submitters	
Enter the number of new units and new stacks to add to this package	
Fuel Burning Device (AP-1)	
Process (AP-2)	
Incinerator (AP-3)	
Tank (AP-4)	
Stack	
GHG Only (found on SRGHG package)	
BAW AQ FACILITY INFORMATION FORM	
Purpose	
Who must file this form?	36
AW Source Registration 8 for Greenhouse Gas Instructions	

BAW Source Registration &/or Greenhouse Gas Instructions
Table of Contents
Page 3 of 230
September 2018

How many versions of this form are required?	36
In what order should I complete this package?	36
Note for repeat filers:	36
A. Facility Information	36
How to change locked fields?	36
1. Facility	
a. Facility Name	
b. Facility Street Address Line 1	
c. Facility Street Address Line 2	
d. City/Town	
e. State	
f. Zip Code	
g. Facility Phone Number	
h. Facility Fax Number	
2. Mailing Address	
a. Facility Mailing Address/PO Box Line 1	
b. Facility Mailing Address/PO Box Line 2	
c. City/Town	
d. State	
e. Zip Code	37
3 Facility Type:	
4. ORIS Facility Code	
5. ID Numbers	37
a. DEP Account Number	
b. Facility AQ Identifier	
6. Location	
a. Latitude	
b. Longitude:	37
How to find/verify the latitude/longitude for your facility?	37
7. North American Industry classification code(s) NAICs	39
How to find NAICS codes?	
8. Facility description	
Facility's normal hours of operation	
a. Start time	
b. End Time	
c. Continuous	
d. Which days is the facility open?	
How to count the number of employees	
10. Number Of Employees	
Who is the owner?	
11. Facility Owner	
a. Owner or Corporation Name	
b. Mailing Address Line 1	
c. Mailing Address Line 2	
d. City/Town	
e. State	
f. Zip Code	
g. Country	
h. Owner TIN (Taxpayer Identification Number)	
i. Owner Phone Number	
j. Extension	
k. Owner Fax Number	40

10 E 3411	
I. Owner E-mail Address	4
12. Facility contact information contact	
a. Facility Contact First Name and Last Name	
b. Mailing Address Line 1	4
c. Mailing Address Line 2	4
d. City/Town	4
e. State	4
f. Zip Code	4
g. Country	
h. E-mail Address	
i. Phone Number	
j. Extension	
k. Fax Number	
Country – foreign owners	
Owner TIN –please correct your TIN	4
13. Air emissions information contact	4
a. Air Emissions Contact First Name and Last Name	
b. Mailing Address Line 1	
c. Mailing Address Line 2	
d. City/Town	
e. State	
f. Zip Code	
g. Country	
h. E-mail Address	
i. Phone Number	
j. Extension	
k. Fax Number	
14. GHG emissions information contact (for SRGHG package)	4
a. GHG Emissions Contact First Name and Last Name	
b. Mailing Address Line 1	
c. Mailing Address Line 2	
d. City/Town	
e. State	
f. Zip Code	
g. Country	
h. E-mail Address	4
i. Phone Number	
j. Extension	4
k. Fax Number	4
B. Preparer	
Contact information for preparer of this submittal	4
a. Preparer Contact First Name and Last Name	
b. Mailing Address Line 1	
c. Mailing Address Line 2	
d. City/Town	
e. State	
f. Zip Code	
g. Country	
h. E-mail Address	<i>1</i>
i. Phone Number	 ∕I
j. Extensionk. Fax Number	
r. i ax inullidel	4
C. Notes and Attachments	1

1 Notes:	
2. Attachments	
D. Certification	
Who is a responsible official?	
What if you are not a responsible official?	
How do I share this package?	
1. Responsible Official (RO) information:	42
a. Print First Name	
b. Print Last Name	
c. Title	
d. Phone Number	
e. E-mail Address	42
BAW AQ EMISSION UNIT -INSTRUCTIONS: FUEL BURNING DEVICE (AP-1) Purpose	43
When is this form applicable?	
How many versions of this form are required?	
CAUTION: for filers with new COMBUSTION emission units since their last submittal	
CAUTION: regarding the order in which you complete your forms	
A. Equipment Description	
1. Facility Identifiers	
a. Facility Nameb. DEP Account Number	
c. Facility AQ Identifier	
How is a flare reported?	
How should ovens and/or dryers be reported?	
Can I change the responses to the emission unit identifier fields?	
2. Emission unit identifiers	
a. Facility's choice of emission unit name- edit as needed	
b. Facility's emission unit number / code – edit as needed	
d. ORIS id # – for large electrical utilities only	
e. Combined units- enter number of individual units	
Combined unit help text	
What are combined units and when can individual unit operations be reported as combined units?	
How do you enter data for Combined Units?	47
Emission unit installation and decommission dates	40 48
a. Installation dates – estimate if unknown (mm/dd/yyyy)	
b. Decommission dates – If applicable (mm/dd/yyyy)	
Oelete a unit help text	48
How / when to delete a unit?	
4. Emission unit replacement	
a. Is this unit replacing another emission unit?	
b. DEP's emission unit number and facility unit name.	
How to be sure the unit being replaced appears in this menu?	
What if one emission unit is replacing more than one unit?	
5. Equipment	
EPA Unit Type Code	
EPA unit type code help text	
a. Type:	
a1 If engine, is this an emergency generator?	49

Emergency generator help text	49
How to record restrictions on emergency engines?	50
a2 Emergency use	
a3. Non emergency use	
a4. Maintenance and readiness testing	50
What to do if data unknown or not available?	50
b. Manufacturer	
c. Model number	
d. Maximum input rating MMBtu/hr	
e. Number of burners	
f. Type of burner	51
g. Burner manufacturer	
h. Burner model number	
i. Burner installation date (mm/dd/yyyy)	
What if the emission unit has more than one MassDEP approval?	
6. DEP Air Quality Approvals	
a. Most recent approval number	
b. DEP approval date (mm/dd/yyyy)	
7. Is this unit exempt under 310 CMR 7.02 Exemptions from Plan Approval?	
8. If exempt from Plan Approval, indicate reason why (cite a specific MassDEP AQ Regulation)	
Additional reporting requirements	5Z
b. Reporting frequency – check all that apply:	
c. Is this unit subject to (check all that apply):	
10. Hours of operation for the emission unit:	
a. Check if typically continuously operated - 24 x 7 x 52	
b. Number of hours per day	
c. Number of days per week	
d. Number of weeks per year	
e. Percent of time emission unit is operated each calendar quarter:	53
11. Ozone season schedule – May 1 through September 30:	
a. Ozone season hours per day	
b. Ozone seasons days per week	
c. Weeks operated in ozone season	
12. Emissions release point	
What is a release point?	
What is the difference between stacks and non-stacks?	
What about unusual exhausts, such as short vertical vents?	
14. Are there air pollution control (APC) devices on this emission unit?	54 5 <i>1</i>
How do I add a new APC?	54 54
How are my existing APCs displayed?	
How do I revise an existing APC?	
What if my APC is used by other EUs?	
Are Low Nox Burners considered control devices?	
How to delete an air pollution control device?	55
How to replace an air pollution control device?	55
What to do if you don't know the date?	
a. Type	
b. Manufacturer **	
c. Model Number **	
d. Facility's ID for this Device. ** (the unique number assigned by the facility for the APC equipment)	
e. Installation Date **	55

f. MassDEP approval number	55
g. MassDEP approval date	55
h. Decommission date	55
i. Percent overall efficiency – enter for all pollutants that the device was designed to control:	55
What is the % overall efficiency?	55
15. Is there monitoring equipment on this emission unit?	56
Do I need to include Fireye or other Flame monitors?	
How to delete a monitor?	
How to replace a monitor?	
a. Monitor type:	
How do I use CEM data?	
How do I use Part 75 reported values?b. Manufacturer:	
c. Model number:	
d. Monitor ID #:	
e. Installation date:	
f. DEP approval #:	
g. DEP approval date:	
h. Decommission date:	
i. Recorder?	
j. Audible alarm?	
k. Data System?	
What is a "data system"?	
I. Monitored pollutants:	
B. Fuels and Emissions (Section B Parent Form)	
DEP Fuel #:	
Can I change the DEP fuel identifier?	
Number of fuels for this unit (previous records):	
How does eDEP handle multiple fuels?	58
Add a New Fuel:	50
Number of Additional Fuels:	
When to not check "Add a new fuel" box	58
Delete this fuel:	
SCC Description	
_ '	
	59
What SCC should be used for a residential boilers/water heater at a commercial/ institutional facility?	
Are there any SCC Codes that should not be utilized on Fuel Burning Device (AP-1) form?b. Type of fuel	
c. Sulfur content for oils and coal: (Acceptable Range 0 – 2.2)	50 50
d. Ash Content for oils and coal	
e. Maximum hourly fuel rate for all firing burners:	60
What is the definition of maximum hourly fuel rate for all firing burners?	
f. Do you have fuel or usage restrictions?	60
What if I have multiple unit fuel restrictions and multiple approvals?	
g. DEP approval number for fuel restrictions: most recent for this fuel.	
What if the restriction is mentioned in multiple approvals?	
How to record restrictions on emergency engines?	
h. Annual usage restriction (amount or hours) for this fuel:	
What if the restriction applies to multiple units? i. Short term fuel usage restriction (amount or hours) for this fuel:	
i. Short term ruor deage rectriction (amount of notice) for tille ruel	

2. Annual usage:	62
a. Amount –year of record	
b. Units	
1 Units help text	
c. Total annual usage for prior year of record	
B. Source Registration Emissions (Parent Form)	
3. Total emissions for this fuel only in tons per year:	
Calculations: Read First	
Why you may want to calculate your own emissions values?	
When is NH3 emissions required?	63
PM Filterable vs. PM Condensable	
Actual (in Tons) for previous year :	
What are "actual emissions"?	
Actual (in Tons) for year of record	
How do I use CEMs data?	
How do I use Part 75 reported values?	
Potential Emissions (in Tons) What are potential emissions?	04
Emission factor	
in pounds per unit (EF Units):	
What are emission factors (EF)?	
Calculation Method	
Maximum allowed emissions (in Tons) - annual:	
Maximum allowed emissions (in Tons) - short term:	
Short term period (or MMBtu)	00
Basis- DEP approval number or regulation:	
4. Ozone season emissions – May 1 through September 30:	
a. Typical day VOC emissions – pounds per day	
b. Typical day NOx emissions – pounds per day	
Check to enter your own values	
What if I have more than one fuel?	
B. Greenhouse Gas Emissions (Parent Form) (in SR/GHG package)	
4. Total GHG emissions for this fuel only in tons per year:	
Calculations: Read First	
Why you may want to calculate your own emissions values?	68
Actual (in Tons) for previous year - eDEP only:	
What are "actual emissions"?	
Actual (in Tons) for year of record	
What are emission factors?	
Emission factor (EF)	
in pounds per unit (EF units):	
What EF and EF units should be used to report SF6 and Refrg-CO2e emissions?	
How do I use CEMs data?	
Calculation Method	
Specify General Reporting Protocol EF	
CO2e for previous year	
CO2e for year of record	
Total CO2e emissions	
CO2e for previous year	
CO2e for year of record	
5. Ozone season emissions – May 1 through September 30:	<i>[</i> 1]

a. Typical day VOC emissions – pounds per day	71
b. Typical day NOx emissions – pounds per day	71
Check to enter your own values	
What if I have more than one fuel?	
C. Notes and attachments (found on parent form only)	
1 Notes:	
Attachments B. Fuels and Emissions (Section B Child Form)	72
1. Fuel Name / Characteristics:	
DEP Fuel #:	
Can I change the DEP fuel identifier?	
How does eDEP handle multiple fuels?	73
Is GHG emissions reporting required for this fuel? (for SRGHG package)	
Delete this fuel:	
a. Source Classification Code (SCC)	
SCC Description	
How does eDEP use Source Classification Codes (SCC)?	
What SCC should be used for a residential boilers/water heater at a commercial/ institutional facility?	
Are there any SCC Codes that should not be utilized on Fuel Burning Device (AP-1) form?	
b. Type of fuel:	
d. Ash Content for oils and coal	
e. Maximum hourly fuel rate for all firing burners:	
What is the definition of maximum hourly fuel rate for all firing burners?	
f. Do you have fuel or usage restrictions?	
What if I have multiple unit fuel restrictions and multiple approvals?	
g. DEP approval number for fuel restrictions: most recent for this fuel	
What if the restriction is mentioned in multiple approvals?	
How to record restrictions on emergency engines?	
h. Annual usage restriction (amount or hours) for this fuel:	
What if the restriction applies to multiple units? i. Short term fuel usage restriction (amount or hours) for this fuel:	76
2. Annual usage:	
a. Amount –year of record	
b. Units	
1 Units help text	
c. Total annual usage for prior year of record	
B. Source Registration Emissions (Section B Child Form)	
3. Total emissions for this fuel only in tons per year:	
Calculations: Read First	
Why you may want to calculate your own emissions values?	77
When is NH3 emissions required?	77
PM Filterable vs. PM Condensable	
Actual (in Tons) for previous year :	77
What are "actual emissions"?	77
Actual (in Tons) for year of record	
How do I use CEMs data?	
How do I use Part 75 reported values?	
Potential Emissions (in Tons)	
What are potential emissions?	
Emission factor	
in pounds per unit (EF Units):	19

What are emission factors (EF)?	80
Calculation Method	80
Maximum allowed emissions (in Tons) - annual:	8 [^]
Maximum allowed emissions (in Tons) - short term:	
Short term period (or MMBtu)	8′
When to enter maximum allowed emissions?	
Basis- DEP approval number or regulation:	8′
B. Greenhouse Gas Emissions (in SR/GHG package) Section B Child form	
4. Total GHG emissions for this fuel only in tons per year:	
Calculations: Read First	
Why you may want to calculate your own emissions values?	83
Actual (in Tons) for previous year - eDEP only:	
What are "actual emissions"?	
Actual (in Tons) for year of record	
What are emission factors?	
Emission factor (EF)	
in pounds per unit (EF units):	
What EF and EF units should be used to report SF6 and Refrg-CO2e emissions?	
How do I use CEMs data?	
Calculation Method	
Specify General Reporting Protocol EF	
CO2e for previous year	
CO2e for year of record	
Total CO2e emissions	
CO2e for previous year	
CO2e for year of record	
D. Total Emissions for Emission Unit (separate child form)	
1. Total Emissions for this emission unit in tons per year	
What are total emissions for this emission unit?	
Actual (in Tons) for previous year	
Actual (in Tons) Emissions	
Maximum allowed emissions (in Tons) – annual	
Basis – DEP approval number or regulation:	
When do I complete the "allowable" emission fields?	
What if a restriction applies to multiple units?	
2. Ozone season schedule - May 1 through September 30:	
a. Typical day VOC emissions – pounds per day	
b. Typical day NOx emissions – pounds per day	
How do I use Part 75 reported values?	
D. GHG Emissions Reporting (in SR/GHG package)	
3. Total GHG Emissions for this emission unit in tons per year	
What are total emissions for this emission unit?	
Actual (in Tons) for previous year	
Actual (in Tons) Emissions	
CO2e for previous year (in Tons)	
CO2e for year of record (in Tons)	
Total CO2e emissions	
CO2e for previous year	
CO2e for year of record	88
BAW AQ EMISSION UNIT -INSTRUCTIONS: PROCESS (AP-2)	
Purpose	
When is this form applicable?	89

How many versions of this form are required?	
CAUTION: for filers with new process emission unit since their last submittal	90
CAUTION: regarding the order in which you complete your forms	
A. Process Description	
1. Facility Identifiers	
a. Facility name	
b. DEP account number	
c. Facility AQ identifier –	
How should ovens and/or dryers be reported?	
Do I need to report Nonroad Engines?	91
How should non-stationary units be reported?	
How do I report emissions from fuel use of a thermal oxidizer?	
How is a flare reported?	0′
a. Facility's choice of emission unit name	
b. Facility's emission unit number / code	
c. DEP emission unit #	
Can I change the responses to the emission unit identifier fields?	
Combined unit help text	93
What are combined units and when can individual unit operations be reported as combined units?	
How do you enter data for Combined Units?	93
e. Is GHG emissions reporting required for this emission unit? (for SRGHG package)	
3. Emission unit installation and decommission dates	
a. Installation dates – estimate if unknown (mm/dd/yyyy) b. Decommission dates – If applicable (mm/dd/yyyy)	
Delete a unit help text	
How / when to delete a unit?	
4. Emission unit replacement	
a. Is this unit replacing another emission unit? b. DEP's emission unit number and facility unit name	
How to be sure the unit being replaced appears in this menu?	
What if one emission unit is replacing more than one unit?	
5. Equipment	
a. Type:	
EPA Unit Type Code	
EPA unit type code help text	95
EPA Unit Type (describe):	95
What to do if data unknown or not available?	95
b. Manufacturer	95
c. Model number	
d. Maximum input rating MMBtu/hr (required, if the process unit burns fuel)	96
What if the emission unit has more than one MassDEP approval?	
6. DEP Air Quality Approvals	
a. Most recent approval number	
b. DEP approval date (mm/dd/yyyy)	96
7. Is this unit exempt under CMR 7.02 Exemptions from Plan Approval?	
8. If exempt from Plan Approval, indicate reason why (cite specific MassDEP AQ Regulation)	
9. Additional reporting requirements	96
a. Are there other routine air quality reporting requirements for this emission unit?	
b. Reporting frequency – check all that apply: c. Is this unit subject to -check all that apply:	n-
o. 13 tilis dilit subject to -olieok ali tilat appry	31

10. Hours of operation for the emission unit:	97
a. Check if typically continuously operated - 24 x 7 x 52	
b. Number of hours per day	
c. Number of days per week	
d. Number of weeks per year	
e. Percent of time emission unit is operated each calendar quarter:	
11. Ozone season schedule – May 1 through September 30:	
a. Ozone season hours per day	
b. Ozone seasons days per week	
c. Weeks operated in ozone season	
12. Emissions release point	
What are release points?	
What is the difference between stacks and non-stacks?	
What about unusual exhausts, such as short vertical vents?	
13. Link this emission unit to a physical stack (if applicable) – pick from the list:	90
14. Are there air pollution control (APC) devices on this emission unit?	90
How do I add a new APC?	90
How are my existing APCs displayed?	98
How do I revise an existing APC?	
What if my APC is used by other EUs?	
How to delete an air pollution control device?	
How to replace an air pollution control device?	
a. Type	99
b. Manufacturer **	
c. Model Number **	
d. Facility's ID for this Device. ** (the unique number assigned by the facility for the APC equipment)	99
e. Installation Date **	
f. MassDEP approval number	
g. MassDEP approval date	
h. Decommission date	
What to do if you don't know the date?	
How do I report my flare as control device?	
i. Percent overall efficiency – enter for all pollutants that the device was designed to control:	
What is the % overall efficiency?	98
15. Is there monitoring equipment on this emission unit or its related control device?	
How to delete a monitor?	
How to replace a monitor?	
a. Monitor type:	
How do I use CEM data?	
b. Manufacturer:	
c. Model number:	
d. Monitor ID #:	
e. Installation date:	
f. DEP approval #:	
g. DEP approval date: (mm/dd/yyyy)	
h. Decommission date: i. Recorder?	
j. Audible alarm?	
k. Data System?	
What is a "data system"?	
I. Monitored pollutants: B. Fuels and Emissions for Raw Materials / Finished Products/ Fuels (Section B Parent Form)	
Special rules for organic compounds	
How does eDEP handle multiple raw materials or finished products?	101

Add a New material/product/fuel	102
Number of Additional Fuels:	102
When to not check "Add a new fuel" box	102
Delete this material/product/fuel:	
1. Operation Description	
Is GHG emissions reporting required for this raw material, finished product or fuel? (in SRGHG package)	<mark>(e)</mark> 102
a. Raw material, finished product, or fuel name:	
EPA material type code help text	
Number of segments for this unit (previous records):	102
Is this fuel, waste, or raw material/finished product an input, output or fuel?	102
DEP #	
Can I change the DEP fuel identifier?	103
c. Process description:	
d. Source Classification Code (SCC)	103
What SCC should be used to report SF6 emissions? (for SR/GHG package)	103
How does eDEP use Source Classification Codes (SCC)?	103
e. Maximum process rate for material/product:	103
What is the definition of maximum process rate?	
f. If organic material, give weight % of: VOC, HOC, HYC	104
What is the weight percentage of VOC, HOC, HYC?	
and If fuel is an oil, give percent by weight of Sulfur content (Acceptable Range 0 – 2.2)	
g. Total actual raw material used or finished product produced for year of record:	
h. Do you have raw material or finished product or fuel restrictions?	
What if there are multiple raw material or finished product or fuel restrictions?	
What if a restriction applies to multiple units?	
i. DEP approval number for restrictions:	
j. Short term raw material/finished product/fuel restriction— if none, leave blank:	
k. Annual material/finished product or fuel restriction – if none, leave blank:	
the facility-designated control devices ID # for each unit that applies:	
What to do if your new control device does not show up in the drop-down menu?	
B. Source Registration Emissions (Section B Parent Form)	
Total emissions for this raw material/product – tons per year:	
What are total emissions for this material/finished product?	
Calculations: Read First	
When is NH3 emissions required?	106
PM Filterable vs. PM Condensable	106
Actual for previous year	106
What are "actual emissions"?	106
Actual for year of record:	
How do I use CEMs data?	
Potential Emissions (in Tons)	
What are potential emissions?	108
Emission factor:	108
in pounds per unit (EF Units):	108
What are emission factors (EF)?	108
Calculation Method	
Maximum allowed emissions – annual:	
Maximum allowed emissions - short term:	
Short term period	
When to enter maximum allowed emissions?	109
Basis- DEP approval number or regulation:	109

4. Ozone season emissions – May 1 through September 30:	110
a. Typical day VOC emissions – pounds per day	
b. Typical day NOx emissions – pounds per day	110
What if I have more than one raw material/finished product/fuel?	
B. Greenhouse Gas Emissions (in SR/GHG package) (Section B Parent Form)	
3. Total GHG emissions for this fuel only in tons per year:	
Calculations: Read First	11
Why you may want to calculate your own emissions values?	11
Actual (in Tons) for previous year:	
What are "actual emissions"?	
Actual (in Tons) for year of record	
_ ` ' '	
What are emission factors?	
Emission factorin pounds per unit: (EF Units)	
What EF and EF units should be used to report SF6 and Refrg-CO2e emissions?	
How do I use CEMs data?	
Calculation Method	
Specify General Reporting Protocol EF	
CO2e for previous year	
CO2e for year of record	
Total CO2e emissions	
CO2e for previous year	
CO2e for year of record	
1 Notes:	
2. Attachments	
B. Fuels and Emissions for Raw Materials / Finished Products/ Fuels (Section B Child Form)	114
How does eDEP handle multiple raw materials or finished products?	114
Delete this material/product/fuel:	114
1. Operation Description	
a. Raw material, finished product, or fuel name:	114
EPA material type code help text	114
Is this fuel, waste, or raw material/finished product an input, output or fuel?	
DEP #	115
Can I change the DEP fuel identifier?	115
c. Process description:	
d. Source Classification Code (SCC)	
What SCC should be used to report SF6 emissions? (for SR/GHG package)	115
How does eDEP use Source Classification Codes (SCC)?	116
f. If organic material, give weight % of: VOC, HOC, HYC	
What is the weight percentage of VOC, HOC, HYC?	
and If fuel is an oil, give percent by weight of Sulfur content (Acceptable Range 0 – 2.2)	
g. Total actual raw material used or finished product produced for year of record:	
h. Do you have raw material or finished product or fuel restrictions?	117
What if there are multiple raw material or finished product or fuel restrictions?	117
What if a restriction applies to multiple units?	117
i. DEP approval number for restrictions:	
j. Short term raw material/finished product/fuel restriction- if none, leave blank:	
k. Annual material/finished product or fuel restriction – if none, leave blank:	
I. Indicate which air pollution control devices from Section A, Question 14 control this material/product/fuel	
the facility-designated control device ID # for each unit that applies:	
What to do if your new control device does not show up in the drop-down menu?	
B. Source Registration Emissions (Section B child form)	118

2. Total emissions for this raw material/product – tons per year:	118
What are total emissions for this material/finished product?	118
Calculations: Read First	
When is NH3 emissions required?	
PM Filterable vs. PM Condensable	
Actual for previous year	
What are "actual emissions"?	119
Actual for year of record:	119
How do I use CEMs data?	
Potential Emissions (in Tons)	
What are potential emissions?	
Emission factor:	
in pounds per unit (EF Units):	120
What are emission factors (EF)?	12 ²
Calculation Method	121
Maximum allowed emissions – annual:	
Maximum allowed emissions - short term:	
Short term period	
When to enter maximum allowed emissions?	
Basis- DEP approval number or regulation:	
B. Greenhouse Gas Emissions (in SR/GHG package) (Section B Child Form)	
3. Total GHG emissions for this fuel only in tons per year:	
Calculations: Read First	
Why you may want to calculate your own emissions values?	123
Actual (in Tons) for previous year:	123
What are "actual emissions"?	123
Actual (in Tons) for year of record	
What are emission factors?	
Emission factor	
in pounds per unit: (EF Units)	
What EF and EF units should be used to report SF6 and Refrg-CO2e emissions?	124
How do I use CEMs data?	
Calculation Method	
Specify General Reporting Protocol EF	
CO2e for previous year	125
CO2e for year of record	125
Total CO2e emissions	
CO2e for previous year	
CO2e for year of record	
D. Total Emissions for Emission Unit (separate Child Form)	
1. Total Emissions for this emission unit in tons per year	
Actual (in Tons) for previous year	
Actual (in Tons) Emissions	
Potential emissions (in Tons)	
Maximum allowed emissions (in Tons) – annual	
Short term period:	
Basis – DEP approval number or regulation:	
2. Ozone season schedule - May 1 through September 30:	
a. Typical day VOC emissions – pounds per day	
b. Typical day NOx emissions – pounds per day	
D. GHG Emissions Reporting (in SR/GHG package)	

3. Total GHG Emissions for this emission unit in tons per year	
What are total emissions for this emission unit?	
Actual (in Tons) for previous year	
CO2e for previous year (in Tons)	
CO2e year (in Tons)	
Total CO2e emissions	
CO2e for previous year	
CO2e for year of record	
BAW AQ EMISSION UNIT -INSTRUCTIONS: INCINERATOR (AP-3)	129
Purpose	
When is this form applicable?	
How many versions of this form are required?	
CAUTION: for filers with new INCINERATOR emissions units since their last submittal .	
CAUTION: regarding the order in which you complete your forms	
A. Emission Unit—Incinerator Information	
1. Facility Identifiers	
a. Facility Name	
b. DEP Account number	
•	
Can I change the responses to the emission unit identifier fields?	
2. Emission unit identifiers	
a. Facility's choice of emission unit name- edit as needed	
b. Facility's emission unit number / code – edit as needed	
c. DEP emission unit #	
d. Is GHG emissions reporting required for this emission unit?	
Emission unit installation and decommission dates	
a. Installation dates – estimate if unknown (mm/dd/yyyy)	
b. Decommission dates – If applicable (mm/dd/yyyy)	
Opelete a unit help text	
How / when to delete a unit?	
4. Emission unit replacement	
a. Is this unit replacing another emission unit?	
b. DEP's emission unit number and facility unit name.	
How to be sure the unit being replaced appears in this menu?	
What if one emission unit is replacing more than one unit?	
5. Incinerator description:	
a. Type:	132
b. Manufacturer	
c. Model number	132
d. Maximum operating capacity:	132
What to do if data unknown or not available?	132
e. Pounds of steam per hour	
f. MMBtu per hour	
g. Charging rate restriction (for batch units only):	133
h. Heat recovery:	133
i. Number of hearths:	
j. Total hearth area: (in square feet)	
k. Automatic feeder?	
What if the emission unit has more than one DEP approval?	
6. DEP Air Quality Approvalsa. Most recent approval number	
a iviosi recent approval number	133

b. DEP approval date (mm/dd/yyyy)	133
7. Additional reporting requirements	134
a. Are there other routine air quality reporting requirements for this emission unit?	134
b. Reporting frequency – check all that apply:	134
c. Is this unit subject to (check all that apply):	
8. Hours of operation for the emission unit:	
a. Check if typically continuously operated - 24 x 7 x 52	134
b. Number of hours per day	134
c. Number of days per week	134
d. Number of weeks per year	
e. Percent of time emissions unit is operated each calendar quarter:	
9. Ozone season schedule – May 1 through September 30:	
a. Ozone season hours per day	
b. Ozone seasons days per week	
c. Weeks operated in ozone season	
10. Emissions release point	
What is a release point?	
What is the difference between stacks and non-stacks?	
What about unusual exhausts, such as short vertical vents?	
11. Link this unit to a physical stack (if applicable) - Pick from the list.	135
12. Are there air pollution control (APC) devices on this emissions unit?	136
How do I add a new APC?	
How are my existing APCs displayed?	
How do I revise an existing APC?	
What if my APC is used by other EUs?	
How to delete an air pollution control device?	
How to replace an air pollution control device?	
a. Type	136
b. Manufacturer **	
c. Model Number **	
d. Facility's ID for this Device. ** (the unique number assigned by the facility for the APC equipment)	
e. Installation Date **	
f. MassDEP approval number	
g. MassDEP approval date	
h. Decommission date	
What to do if you don't know the date?	
How do I report my flare as control device?	
i. Percent overall efficiency – enter for all pollutants that the device was designed to control:	
What is the % overall efficiency?	13/
13. Is there monitoring equipment on this emissions unit or its related control device?	137
How to delete a monitor?	
How to replace a monitor?	
a. Monitor type:	
How do I use CEM data?	
b. Manufacturer:	
c. Model number:	
d. Monitor ID #:	
e. Installation date:	
f. DEP approval #:	
g. DEP approval date: (mm/dd/yyyy)	
h. Decommission date:	
i. Recorder?	
j. Audible alarm?	
k. Data System?	138

	What is a "data system"?	
	I. Monitored pollutants:	. 138
B.	Fuels and Emissions (Parent Form: DEP Fuel #1)	. 138
	1. Waste Type Description:	. 139
	Is GHG emissions reporting required for this fuel, waste or raw material/finished product? (in SRGHG package)	
	Is this fuel, waste, or raw material/finished product an input, output or fuel?	
	Add a New Fuel:	. 139
	When to not check "Add a new fuel" box	139
	Delete this fuel:	
	Number of fuels for this unit (previous records):	
	How does eDEP handle multiple fuels?	
	1. DEP Fuel #:	. 140
	Can I change the DEP fuel identifier?	140
	a. Source Classification Code (SCC)	140
	SCC Description	
	How does eDEP use Source Classification Codes (SCC)?	
	b. Fuel/Material/Waste Type	. 140 140
	EPA material type code help text	
	c. Do you have fuel or usage restrictions?	
	What if there are multiple raw material or finished product or fuel restrictions?	
	What if a restriction applies to multiple units?	
	d. DEP approval number for restrictions:	
	e. Annual material/finished product or fuel restriction – if none, leave blank:	
	f. Short term raw material/finished product/fuel restriction—if none, leave blank:	
	2. Annual usage:	
	a. Total actual amount used for year of record	
	b. Units	
	Units help text	
	Prior year (Annual usage)	. 142
	Source Registration Emissions (Parent Form: DEP Fuel #1)	
	3. Total emissions for this waste type only – tons per year:	. 142
\	What are total emissions for this material/finished product?	
alcu	llations: Read First	
\	When is NH3 emissions required?	
'IVI F	ilterable vs. PM Condensable	
	Actual for previous year	
	What are "actual emissions"?	
	Actual for year of record:	
	How do I use CEMs data?	
	Potential Emissions (in Tons)	
	What are potential emissions?	
	Emission factor:	
	in pounds per unit (EF Units):	. 144
	What are emission factors (EF)?	. 145
	Calculation Method	
	When to enter maximum allowed emissions?	
	Maximum allowed emissions – annual:	-
	Maximum allowed emissions - short term:	
	Short term period	
	Basis- DEP approval number or regulation:	. 146
	3. Ozone season emissions – May 1 through September 30:	
	a. Typical day VOC emissions – pounds per day	
	· · · · · · · · · · · · · · · · · · ·	

b. Typical day NOx emissions – pounds per day	146
What if I have more than one raw material/finished product/fuel?	147
B. Greenhouse Gas Emissions (Parent Form: DEP Fuel #1) in SRGHG Package	
4. Total GHG emissions for this fuel only in tons per year:	
Calculations: Read First	147
Why you may want to calculate your own emissions values?	147
What are "actual emissions"?	147
Actual (in Tons) for previous year	
Actual (in Tons) for year of record	147
What are emission factors?	148
Emission factor (EF)	
What EF and EF units should be used to report SF6 and Refrg-CO2e emissions?	
in pounds per unit (EF units):	148
Calculation Method	148
Specify General Reporting Protocol EF	
CO2e for previous year	
CO2e for year of record	
Total CO2e emissions	
CO2e for previous year	
CO2e for year of record	149 1 <i>1</i> 0
1 Notes:	
2. Attachments	
B. Fuels and Emissions (Section B Child Forms: (DEP Fuel# 2) Primary Chamber Information)	
Is GHG emissions reporting required for this fuel, waste or raw material/finished product? (in SRGHG package)	
Is this fuel, waste, or raw material/finished product an input, output or fuel?	150
1. DEP Fuel #:	150
Can I change the DEP fuel identifier?	150
a. Source Classification Code (SCC)	
SCC Description	150
How does eDEP use Source Classification Codes (SCC)?	150
b. Fuel/Material/Waste Type:	150
d. Is this a Primary chamber auxiliary burner?	
Temperature - degrees in Fahrenheit	
a. Operating range	
b. Permitted range:	
Retention time in seconds	
Chamber auxiliary burner	
b. Burner manufacturer	
c. Burner model number	
d. Maximum rating MMBtu/hr	
e. Sulfur content for oils (Acceptable Range 0 – 2.2):	
f. Maximum hourly fuel rate for all firing burners:	
g. Do you have fuel or usage restrictions?	
h. DEP approval number for fuel restrictions: most recent for this fuel.	
What if the restriction is mentioned in multiple approvals?	
i. Annual usage restriction for this fuel:	
What if the restriction applies to multiple units?	
j. Short term fuel usage restriction for this fuel:	
a. Total actual amount used for year of record	
a. Fotal action difficult according your of four of 100010	100

b. Units	153
Onits help text	153
Prior year (Annual usage)	
B. Greenhouse Gas Emissions (DEP Fuel# 2) Primary Chamber (in SRGHG Package)	
3. Total emissions for this fuel only in tons per year:	
Calculations: Read First	
Why you may want to calculate your own emissions values?	154
Actual (in Tons) for previous year - eDEP only:	
What are "actual emissions"?	
Actual (in Tons) for year of record	
What are emission factors?	
Emission factor (EF)	
in pounds per unit (EF units):	
What EF and EF units should be used to report SF6 and Refrg-CO2e emissions?	
How do I use CEMs data?	
Calculation Method	
Specify General Reporting Protocol EF	
CO2e for previous year	
4 Total CO2e emissions	
CO2e for previous year	
CO2e for year of record	
B. Fuels and Emissions (Section B Child Forms: (DEP Fuel# 3) Secondary Chamber Information)	
Is GHG emissions reporting required for this fuel, waste or raw material/finished product? (in SRGHG Package).	
Is this fuel, waste, or raw material/finished product an input, output or fuel?	156
1. DEP Fuel #:	
Can I change the DEP fuel identifier?	157
a. Source Classification Code (SCC)	
SCC Description	
How does eDEP use Source Classification Codes (SCC)?	
b. Fuel/Material/Waste Type:	
d. Is this a Primary chamber auxiliary burner?	
Temperature - degrees in Fahrenheit	
a. Operating range	
b. Permitted range:	
Retention time in seconds	
a. Operating range	
b. Permitted range:	157
Chamber auxiliary burner	158
a. Type of burner:	158
b. Burner manufacturer	
c. Burner model number	
d. Maximum rating MMBtu/hr	
e. Sulfur content for oils (Acceptable Range 0 – 2.2):	
f. Maximum hourly fuel rate for all firing burners:	
g. Do you have fuel or usage restrictions?	
h. DEP approval number for fuel restrictions: most recent for this fuel.	
What if the restriction is mentioned in multiple approvals?	
i. Annual usage restriction for this fuel:	
j. Short term fuel usage restriction for this fuel:	
2. Annual usage:	
· · · · · · · · · · · · · · · · · · ·	

a. Total actual amount used for year of record	
b. Units	159
Ounits help text	159
Prior year (Annual usage)	
B. Greenhouse Gas Emissions (DEP Fuel# 3) Secondary Chamber (in SRGHG Package)	
3. Total GHG emissions for this fuel only in tons per year:	
Calculations: Read First	160
Why you may want to calculate your own emissions values?	160
Actual (in Tons) for previous year - eDEP only:	
What are "actual emissions"?	
Actual (in Tons) for year of record	
What are emission factors?	
Emission factor (EF)in pounds per unit (EF units):	
What EF and EF units should be used to report SF6 and Refrg-CO2e emissions?	
How do I use CEMs data?	
Calculation Method	
Specify General Reporting Protocol EF	
CO2e for previous year	
CO2e for year of record	
4 Total CO2e emissions	
CO2e for previous year	
CO2e for year of record	
D. Total Emissions for Emission Unit (separate child form) (in SRGHG Package)	162
1. Total Emissions for this emission unit in tons per year:	
What are total emissions for this emission unit?	
Actual (in Tons) for previous year	
Actual (in Tons) Emissions	
Potential emissions (in Tons):	
Maximum allowed emissions (in Tons) – annual	163
Maximum allowed emissions (in Tons)) - short term	163
Short term period:	
Basis – DEP approval number or regulation:	
When do I complete the "allowable" emission fields?	
What if a restriction applies to multiple units?	
Ozone season schedule - May 1 through September 30:	
a. Typical day VOC emissions – pounds per day	
b. Typical day NOx emissions – pounds per day	
3. Total GHG Emissions for this emission unit in tons per year	164
What are total emissions for this emission unit?	
Actual (in Tons) for previous year	
Actual (in Tons) Emissions	
CO2e for previous year (in Tons)	
Total CO2e emissions	
CO2e for previous year	
CO2e for year of record	
BAW GHG FORM EMISSION UNIT INSTRUCTIONS: GHG-ONLY (FOR SRGHG PACKAGE)	166
Purpose	
When is this form applicable?	
How many versions of this form are required?	
CAUTION: for filers with new GHG emission unit since their last submittal	
A. Equipment Description	

1. Facility Identifiers	167
a. Facility Name	
b. DEP Account number	
c. Facility AQ Identifier	167
Can I change the responses to the emission unit identifier fields?	168
Emission unit identifiers	
a. Facility's choice of emission unit name- edit as needed	
b. Facility's emission unit number / code – edit as needed	
c. DEP emission unit #	168
d. ORIS id # – for large electrical utilities only	168
e. Combined units- enter number of individual units	168
f. Emission Unit Category	168
g. Is GHG emissions reporting required for this emission unit?	
WHAT ARE COMBINED UNITS AND WHEN CAN EQUIPMENT BE COMBINED AS ONE EMISSION UNIT?	
Emission unit installation and decommission dates	
a. Installation dates – estimate if unknown (mm/dd/yyyy)	
b. Decommission dates – If applicable (mm/dd/yyyy)	
How / when to delete a unit?	
4. Emission unit replacement	
a. Is this unit replacing another emission unit?	
b. DEP's emission unit number and facility unit name.	
How to be sure the unit being replaced appears in this menu?	
What if one emission unit is replacing more than one unit?	
5. Equipment	
a. Type:	
EPA Unit Type Code	1/(
© EPA unit type code help text	170
EPA Unit Type (describe):	
What to do if data unknown or not available?	
b. Manufacturer	
c. Model number	
d. Maximum input rating MMBtu/hr	
B. Fuels and Emissions (for Parent and Section B Child Forms)	
Is GHG emissions reporting required for this fuel, waste or raw material/finished product?	
Is material/product/fuel an input or output or fuel?	
How does eDEP handle multiple fuels?	
Add a New Fuel:	
Delete this fuel:	
1. Process Description	17
DEP Fuel #:	
a. Source Classification Code (SCC)	
SCC Description	
How does eDEP use Source Classification Codes (SCC)?	172
What SCC should be used to report emissions from a natural gas distribution system?	172
b. Fuel/Material/Waste Type::	
c. Fuel/Process Description	
2. Total actual used for year of record	
Amount	
Units per hour	
Prior year (Amount and Units)	
3. Total GHG emissions for this fuel only in tons per year:	
Calculations: Read First	
Why you may want to calculate your own emissions values?	175

Actual (in Tons) for previous year	17
What are "actual emissions"?	17
Actual (in Tons) for year of record	
What EF and EF units should be used to report SF6 and Refrg-CO2e emissions?	17
Emission factor	174
in pounds per unit (EF units):	174
What are emission factors?	174
Calculation Method	
Specify General Reporting Protocol EF	174
CO2e for previous year	17
CO2e for year of record	
4 Total CO2e emissions	
CO2e for previous year	
CO2e for year of record	
C. Notes	
D. Total GHG Emissions for Emission Unit (separate Child Form)	
1. Total GHG Emissions for this emission unit in tons per year	
What are total emissions for this emission unit?	
Actual (in Tons) for previous year	
Actual (in Tons) Emissions	
CO2e for previous year (in Tons)	
CO2e year (in Tons)	
2 Total CO2e emissions	
CO2e for previous year	
CO2e for year of record	170
BAW AQ EU – ORGÁNIC MATERIAL STORAGE INSTRUCTIONS: TANK (AP-4)	17
Purpose	
When is this form applicable?	
When does a tank need to be reported?	
Do waste tanks need to be reported?	
Do I need to report emissions from tanks (breathing/standing, drawdown, and transfer losses)?	
How do I report lube oil tanks?	
Is there a de minimis concentration of organic matter below which a form is not required for a tank?	
CAUTION for filers with new storage tanks since their last submittal	
A. Equipment Description	
1. Facility Identifiers	
a. Facility Name	
b. DEP Account number	
c. Facility AQ Identifier	
2. Emission Unit Identifiers	
a. Facility's choice of emission unit name	
b. Facility's emission unit number / code	
Can I change the responses to the emission unit identifier fields?	179
c. DEP emission unit #	
d. Combined Units – enter number of individual units	179
What is a combined unit?	
3. Emission unit installation and decommission dates	
a. Installation date – estimate if unknown (mm/dd/yyyy)	
b. Decommission date (mm/dd/yyyy) – if applicable	
How / when to delete a unit?	
4. Emission unit replacement	
a. Is this unit replacing another emission unit?	
b. DEP's emission unit number and facility unit name	180

How to be sure the unit being replaced appears in this menu?	180
What if one emission unit is replacing more than one unit?	
5. Unit descriptions	
a. Description	
b. Roof type	
c. Height/Length – feet	
d. Diameter – feet	
e. Capacity – gallons	
How to report on combined units?	
6. Construction:	
7 – 8. Material stored and New material stored (enter new material if contents changed during year of record):	180
a. Name of material	
b. CAS number if single chemical	
c. SCC for standing / breathing loss	
d. SCC description	101 101
Where do you find Source Classification Codes (SCC)?	
e. Vapor pressure PSI at 25 C	
f. Temperature - °Fahrenheit	
What do I enter for temperature?	
g. Annual throughput in gallons	
h. RVP – gasoline only	
i. Total oxygen content in gallons - gasoline only	
j. Oxygenate name – gasoline only	
How do I report blends of gasoline?	
What if there are more than 2 contents during the year?	
B. Notes and Attachments	
1 Notes:	
2. Attachments	
BAW AQ INSTRUCTIONS: STACK	183
Purpose	183
When is this form applicable?	183
How many versions of this form are required?	183
CAUTION: for filers with new stacks (vertical release points) since their last SUBMITTAL	183
How do I enter in the forms unusual exhausts, such as vertical vents?	184
CAUTION: regarding the order in which you complete your forms	184
A. Stack Description	
1. Facility Identifiers	184
a. Facility Name	184
b. DEP Áccount number	184
c. Facility AQ Identifier	
Can I change the responses to the stack identifier fields?	184
2. Stack Identifiers:	
a. Facility's choice of stack name	
b. Facility's stack number	
c. DEP stack #	
3. Stack type: Check the box	
3.b Combined stacks	
When can stacks be combined on one form?	
How should the data be reported?	
4. Dimensions:	
Height in feet above the ground	
Internal Diameter in feet	
5. Gas exit velocity:	
Low end – feet per second	
Low end - leet het become	100

High end – feet per second	186
6. Exit temperature	
Low end – ° Fahrenheit	
High end – ° Fahrenheit	
7. Stack liner material:	
8. Decommission date –if applicable (mm/dd/yyyy)	
When / how to delete (decommission) a stack?	
B. Emission Units Associated with Stack.	
C. Notes and Attachments	
1 Notes:	
2. Attachments	
BAW AQ TOTAL EMISSIONS STATEMENT (TES) INSTRUCTIONS & HAZARDOUS AIR POLLUTANT (HAP) LIST	
Purpose	
Who must file this form?	
How many versions of this form are required?	
When is this form applicable?	
CAUTION: regarding the order in which you complete your forms	
A. Annual Total Emissions Statement	
Airital Total Emissions Statement Facility Identifiers	
a. Facility Name	
b. DEP Account number	
c. Facility AQ Identifier	
2. Total Emissions	
How are total emissions calculated?	
3. Facility-wide Emission Limits	
Total Emissions -	
Actual for previous year	
Actual for year of record	
Potential emissions at maximum capacity	
Facility-wide max allowed (permitted) emissions-annual	
Facility-wide max allowed (permitted) emissions- short term:	189
Short term period:	
Basis: DEP approval number or regulation:	
When do I complete the "max-allowed" (permitted) emission fields?	
If the restriction is mentioned in multiple approvals:	
4. If you have facility-wide fuel, raw materials, or product restrictions, complete the following:	
DEP approval number (most recent)	190
Amount of restriction	
Restriction units (e.g., gallons, tons)	
Per unit time (e.g. yr, mo, wk, day, hr)	
Description of fuel, raw material or product restricted.	
When do I complete the facility-wide restriction fields?	
If the restriction is mentioned in multiple approvals:	
B. Greenhouse Gas (GHG) List (for SR Only Package)	
What are the thresholds for reporting greenhouse gases?	
Please indicate which – if any - of the following greenhouse gas chemicals are used and/or emitted by checkin	
appropriate box:	
B. Greenhouse Gas (GHG) Emissions (for SRGHG Package)	191
1. Total GHG Emissions:	
Actual for previous year	
Actual for year of record	
CO2e for previous year	
CO2e for year of record	
2 Total CO2a Emissions	101

Actual for previous year	191
Actual for year of record	
C. Hazardous Air Pollutant (HAP) List	19 ²
What is a HAP?	19 ²
What are the thresholds for reporting HAPs in this section?	192
1. Does your facility use any of the Hazardous Air Pollutant chemicals regulated under Section 112 of the Clean	
Act listed below and on the following pages?	192
D. Hazardous Air Pollutant Emissions	
1. Does the facility have the potential to emit (PTE) 10 tons of any single listed Hazardous Air Pollutant (HAP)	193
Do you need an Air Operating Permit?	193
2. Does the facility have the potential to emit (PTE) a total of 25 tons of any combination of listed Hazardous Air	
Pollutants (HAPs)?	
Are you subject to TURA?	
3. Does the facility have a restriction on total HAPS?	
4. Are you required to report HAP emissions for any other reason? (e.g. a permit condition)	
5. If you answered "yes" to any of the Questions 1 – 4 above, eDEP will generate additional pages in which you	
enter those emissions.	
E. Notes and Attachments	
1 Notes:	
2. Attachments	
F. Hazardous Air Pollutant Emissions	
Where do you enter Total HAP emissions?	195
Which HAPs must be reported?	
HAP name	195
CAS # for individual HAPs, if applicable:	
Actual for previous year	
Actual for year of record	
Potential Emissions (in Tons)	
What are potential emissions?	
Facility-wide permittedannual:	
Facility-wide permitted short term:	
Short term period:	
Basis: DEP approval number or regulation:	197
G. Hazardous Air Pollutant (HAP) Emissions Total	
1. Total HAP Emissions	
a. Actual for previous year	
b. Actual for year of record	
c. Potential Emissions (in Tons)	
What are potential emissions?	
d. Max allowed emissions (permitted) -annual:	
e. Max allowed emissions (permitted) – short term:	
f. Short term period:	
g. Basis for max allowed emissions:	
OMPLETION OF YOUR SUBMITTAL	
Responsible official's (RO) SIGNATURE	
Sharing a package	
Electronically Signing Your Package	
Submitting Your Package	
Printing a copy/Saving an electronic copy	
ENDICES	
PPENDIX A: DEFINITIONS	
Actual Emissions	
Air Contaminant	
Areas of Critical Concern	202

Best Available Control Technology (BACT)	203
Calculation Method Type	203
Chemical Abstract Service (CAS) number	203
Clean Air Act Chemical (CAA Chemical)	204
Combustion Device	
Criteria Pollutant	
Emission Unit (EU)	
Enforceable Limit	
Facility-wide Potential Emissions:	
FEDERALLY ENFORCEABLE	205
FEDERAL POTENTIAL EMISSIONS	
Federal Register (FR)	
Formulation	
GHG Only	
Global Warming Potential (GWP)	
Halogenated Organic Compound (HOC)	
Hazardous Air Pollutant (HAP)	
Insignificant Activities	207
LOWEST ACHIEVABLE EMISSION RATE (LAER)	207
Major facility Threshold	
Material Safety Data Sheet (MSDS)	
New Source Performance Standards (NSPS)	
Numbering Stacks, Points, and Segments	
Organic Compound	
Organic Material	
Ozone Season	
Permitted Emissions	
Permitted by rule	
Point	
Pollutant	
Potential Emissions	
REASONABLY AVAILABLE CONTROL TECHNOLOGY (RACT)	
Responsible Official (RO)	
Segment	
Stack	
Volatile Organic Compound (VOC)	
APPENDIX C: CALCULATIONS	
SECTION C.1: ESTIMATING EMISSIONS	
Section C.1.1: Basic Methodology	
Section C.1.2: EXAMPLE CALCULATIONS FOR PROCESS EMISSIONS (for SR Emissions Reporting)	
Section C.1.2.1 Example Calculations for Coating Operations Using VOC Coatings	
Section C.1.2.2: Example Calculations for Other Process Emissions	
SECTION C.1.3: FORMULAS AND SAMPLE CALCULATIONS FOR FUEL UTILIZATION FACILITIES	220
Section C.1.3.1: Formulas for Estimating Emissions from Fuel Utilization Facilities using Emission Factors	
Section C.1.3-2 Oil Heat Values	
Section C.1.3.3: Example Calculations for a Boiler	
Section C.1.4: EXAMPLE CALCULATIONS FOR GHG EMISSIONS	
SECTION C.2: THE WEIGHT OF THE VOC, HOC, or HYC CONTROLLED	
APPENDIX D: AIR POLLUTION CONTROL EQUIPMENT CODES	
APPENDIX E: EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS	
APPENDIX F: MassDEP REGIONAL OFFICES	
MassDEP Regional Facility Master File (FMF) Contacts	
• • • • • • • • • • • • • • • • • • • •	•

OVERVIEW OF SOURCE REGISTRATION PROGRAM WITH GREENHOUSE GAS INFORMATION

reporting by facilities for which it is not mandatory.

PURPOSE OF SOURCE REGISTRATION (SR) PROGRAM

Source Registration reporting provides MassDEP with valuable information on air pollution sources, their emissions, and their effects on ambient air quality across Massachusetts. This information is also used for program planning, technical assistance targeting, state and federal emissions inventories, and state implementation plans (SIPs). Source Registration serves as a mechanism to report actual emissions, potential emissions, and restricted emissions which are utilized to estimate fees that are used to offset MassDEP's costs for monitoring, inspection, technical assistance, and other compliance and enforcement activities and payment of these fees is required to maintain valid permits. In addition, the program is utilized to report daily emissions during the Peak Ozone Season, which occurs from May 1 to September 30.

The Massachusetts Global Warming Solutions Act (GWSA), which became law in 2008, required the

Department of Environmental Protection (MassDEP) to promulgate mandatory greenhouse gas (GHG)

reporting regulations. MassDEP responded by issuing **310 CMR 7.71**, which identifies the facilities that need to report, establishes methodologies for calculating and verifying emissions, and allows voluntary

PURPOSE OF GREENHOUSE GAS (GHG) PROGRAM

(for SRGHG package)

WHO MUST FILE THIS FORM?

Source Registration is required of any person owning, operating or controlling a facility that meets the requirements listed in 310 CMR 7.12(1)(a) - See **310 CMR 7.00: Air Pollution Control** for details.

Reporting of greenhouse gas emissions is required of any person owning, operating or controlling a facility that meets the requirements listed in 310 CMR 7.71. See 310 CMR 7.00: Air Pollution Control for details.

HOW MANY VERSIONS OF THIS FORM ARE REQUIRED?

One package is required for the entire facility. This report must include information on all emission units, emission processed, tanks, fugitive GHG emissions (for SRGHG package, if applicable) and emission release points (stacks) unless specifically exempted.

IMPORTANT: Once a facility is subject to 310 CMR 7.12, all emission units and processes at the facility shall be included in the Source Registration even if, individually, certain emission units and processes may not meet the applicability thresholds of 310 CMR 7.00. Emission units that are "insignificant activities" under 310 CMR 7.00: *Appendix C*(5)(i) need not be included

WHAT IF MY FACILITY IS ALSO REQUIRED TO REPORT GHG EMISSIONS?

- ➤ Create a "Greenhouse Gas (GHG) Package": If you are required to submit a GHG emissions report and your facility is required to submit Source Registration (SR) report triennially but this is NOT the year your SR is due, do not use the SRGHG package. Return to My eDEP. Find "Greenhouse Gas Package(GHG)" and click <Start Transaction>. Go to the GHG Website for instructions: https://www.mass.gov/quides/massdep-greenhouse-gas-emissions-reporting-program
- Create a "SR and GHG Package": If you are required to submit a GHG emissions report and your facility is required to submit Source Registration (SR) report triennially and this is the year your SR is due, you will need to create a SRGHG package. If you did not create a SRGHG package, return to My eDEP. Find "SR and Greenhouse Gas (GHG)" and click <Start Transaction>
- Create an "AQ Source Registration Package (SR)": If you are only required to create a Source Registration Package and do not need to report GHG emissions, you need to use the SR Only package. If you did not create a SR package, return to My eDEP. Find "AQ Source Registration Package (SR)" and click <Start Transaction>

NOTE: for facilities that also need to submit GHG emission annually, any changes to emission unit or fuel information OR adding new emission units in your SRGHG submittal, will also be available when you are required to create your GHG Only package.

BAW Source Registration &/or Greenhouse Gas Instructions Overview of the Source Registration Program Page 30 of 230 September 2018 WHAT IF MY FACILITY'S CLASSIFICATION CHANGED, DO I STILL REPORT?

If your facility met the annual filing criteria during any portion of the year of record, then it must report for that year of record. This applies even if the facility ceased to operate at some point during the year of record. If the facility can demonstrate that is was NOT subject to Source Registration during the year of record (e.g., the facility shutdown in the year prior to the year of record) then the facility usually does not have to file. You **MUST** contact the Help Desk or your MassDEP Regional Data Manager if you believe this applies to your facility.

For GHG emissions reporting: If your facility is subject to 310 CMR 7.75 and has not received an exemption under 310 CMR 7.75(3)(b), then you must submit a GHG emission report.

DO I HAVE TO REPORT IF I DID NOT RECEIVE A LETTER FROM MASSDEP?

If your facility meets the criteria for filing Source Registration, you must report regardless of whether you received a letter from MassDEP or not. If you think there is a mistake in the list, please contact the Help Desk or email baw.edep@state.mas.us with an explanation.

NOTE: you may be directed by MassDEP to submit a Source Registration through communications other than the annual notice letters. For example, you may be directed to submit as part of an inspection, enforcement action, or permit. You must submit when so directed regardless of whether or not you receive one of the annual Source Registration notice letters.

WHY CAN'T I LOGIN USING MY FACILITY'S TIN?

Sometimes the Tax Identification Number (TIN) we have on file is not correct – this is particularly common for facilities that have not yet filed in the new online system. In such cases, we have assigned a temporary TIN – this temporary TIN was included in the Reminder Letter mailed to the facility. Once you login with the temporary TIN, you must correct the TIN on the Facility Information form.

WHAT UNITS MUST BE SUBMITTED?

A complete package includes a report on ALL emission units, including idle units. Failing to report on an idle unit for two (2) years could trigger requirements of a new approval plan. Similarly, you must submit a timely report if an entire facility is idle.

If a unit has been permanently removed and not previously reported as being removed but is listed on the Overview Form as part of the facility please provide a decommissioning date for that unit. This notifies the Air Quality Program that the unit has been permanently removed. In some cases, such as when the removed unit affects a permit or approval plan, affects fees, or other reporting requirements, it may be necessary to notify your regional office that the unit has been removed.

For GHG emissions reporting: Please report GHG emissions for all stationary emission sources, as defined in 310 CMR 7.71

DO I NEED TO REPORT SMALL PORTABLE HEATING UNITS OR OTHER SMALL SOURCES?

No, small portable heating units, defined as those which have fuel tanks less than 10 gallons capacity, do not need to be reported. Similarly, other small units, or insignificant activities and their associated emissions do not need to be reported, such as bathroom and locker room ventilation, copying activities for internal office use, facility/building maintenance (including repainting, sandblasting, lawn maintenance, etc.). A complete list of these activities can be found in Appendix A: Definitions.

DO I REPORT TEMPORARY EMISSION UNITS?

Yes, in some cases. If an emission unit is a type that would be reported if it were a fixed or permanent unit, but it is a temporary or mobile unit (such as a temporary emergency generator or a temporary boiler mounted on a trailer), then it must be included in your Source Registration *IF* it operated for 120 days or more during the year of record. **Note** that if the temporary unit is very similar to other units at the facility, you should consider reporting it with one of the existing units on that unit's form (they would become a combined unit).

DO I NEED TO REPORT NONROAD ENGINES?

The only exception is a unit used for construction equipment – that is, a generator used only to power construction equipment does not need to be reported in Source Registration. Note, however, that a temporary generator used to replace or augment an existing unit at the facility (that is, it is used to power the facility's equipment) during construction would need to be reported.

HOW SHOULD NON-STATIONARY UNITS BE REPORTED?

Where an engine is not used to power a motor vehicle but is moved around to different locations at a facility, then the engine is defined as non-stationary engine and is subject to reporting under Source Registration. This is true if: (1) the engine is at the facility and operates for more than 120 days even if it moves around at the facility (i.e., the engine runs at the facility and is not a unit that operates off-site but is just stored at the facility); (2) is not construction equipment; and (3) is a type that would be reported on if fixed (e.g., not an insignificant activity). This is due to the broad definition of "emission unit" in 7.12(3)(a). This would also apply to non-stationary units that are not engines.

WHAT DO YOU ENTER INTO THE BASIS FIELDS FOR RESTRICTIONS IF YOU DON'T HAVE A PERMIT?

If a unit has a restriction that is based on a regulatory limit rather than a permit condition, then enter the regulatory citation (e.g., 310 CMR 7.X(XX) or 40 CFR Part 63, Subpart XX.XX). All emissions or throughput restrictions will have a basis.

WILL MASSDEP REVIEW WHAT I HAVE SUBMITTED?

Yes. We have automated Quality Assurance programs that search all of the submittals for missing, unusual or inconsistent data. In addition, MassDEP staff will also review individual packages in more detail from time to time.

If a problem is found, the owner/operator of the facility or the preparer may be contacted regarding mistakes or questionable data. Please check your work to avoid you or your client receiving a call from us. If you are reporting anything unusual (such as a reorganization of your emission units), it is good to explain this in the notes section.

NOTE: You must be able to access your submittal during an inspection of the facility by MassDEP.

BAW AQ OVERVIEW FORM

PURPOSETo create or amend a Source Registration and/or Greenhouse Gas Package.

WHO MUST FILE THIS FORM? This form must be completed by the owner/operator/preparer submitting their package.

HOW MANY VERSIONS OF THIS FORM ARE REQUIRED?

Submit one form for the whole facility.

NOTE FOR REPEAT FILERS

Most of the information on this form will have been auto filled in by eDEP. You may check the boxes to identify what changes will be made to your package. The information in the emission unit (EU) name field displays your facility's existing data PRIOR to this package being submitted. Any changes made to the EU forms will not be displayed on this form until this package has been submitted.

A. CREATE A SOURCE REGISTRATION PACKAGE

1. Select existing or new facility:

Existing Facilities Used by existing facilities to create a package.

Check if you added emission units or stacks since your last report.

Provides the preparer the ability to create additional forms, by means of a check box, for any new units added since the previous submittal. Checking this box will create the "New Unit Creator Form (New Form Creator)". This will allow the preparer to add any of the following forms: Stack, Fuel Burning Device (AP1), Process (AP2), Incinerator (AP3), and/or Tank (AP4) Forms, as well as, a **GHG-Only form** if GHG emission reporting is required but this activity is not subject to SR emissions reporting; i.e. fugitive emissions for Natural Gas Distribution System.

New Facilities Used by new facilities to create a package.

This will automatically create the "New Unit Creator Form (New Form Creator)" allowing the preparer to create the appropriate number of forms for the submittal.

Note concerning "New Unit Creator Form (New Form Creator)" Once the "New Unit Creator Form (New Form Creator)" is validated, the appropriate types and number of forms are created. If it becomes necessary to create additional form(s) for overlooked unit(s) at a later time, any individual "new unit" forms (Stack, Fuel Burning Device, etc.) that have been previously validated will need to be re-validated.

NOTE: it is better to overestimate the number of forms needed. Any unused new forms can be deleted on the <Transaction Overview page>.

B. AMEND A PACKAGE

It may become necessary to amend a previously submitted package for several reasons. Some examples of issues that may require amendments are: a typographical mistake while entering fuel usage (which impacts a specific emission unit and the total emissions summary); a typographical mistake while entering an allowable emissions restriction (which impacts a specific emission unit); a new emission unit was entirely overlooked (which impacts a specific emission unit and the total emissions summary); the facility contact has changed (which impacts the Facility Information form), or other reasons.

1. Check if you need to

Check the box if you need to correct or add to a previously submitted SR or SR/GHG Package, check the boxes in the list below to select the forms/units you wish to work on.



2. Facility Name

This will be pre-populated from the information on your BAW AQ Facility Information Form. **NOTE:** You cannot change the facility name on this form. To change the facility name you must contact your MassDEP Regional Office FMF Data Manager.

Number of Emission Units (points)

This will be pre-populated based on existing active emission units and stack information in the MassDEP database

Number of Physical stacks

NOTE: you cannot change the information on this form.

HOW TO AMEND A
PREVIOUSLY SUBMITTED
PACKAGE

First, in the Preform, (this form appears after selecting start transaction), you needed to identify the reporting year of your package.

NOTE: The Reporting Year selected will be present in each form header of your package.

On the Overview form, unselect Existing Facility and put a check mark by the units that you want to amend. Or if you need to add a unit, check the box under A.1 "check if you added emission units". The system is flexible enough that you only need to submit the forms you want to correct rather than the entire package again.

IMPORTANT: Before amending your package for the current reporting year, email BAW.eDEP@state.ma.us to confirm that your submittal has been accepted by MassDEP.

Facility Information

This form is required. This box is automatically checked enabling updates to the facility mailing information, facility contact information, Certification Section, etc. to be amended

TES (Total Emissions Statement)

Checking this box enables the total facility emissions to be updated/validated. This form is required if this submittal contains any of the following forms that report emissions: Fuel Burning Device, Process, Incinerator, or GHG Only Form.

New Unit Creator Form (New Form Creator)

Checking the box "Check here to add new units" allows the creation of new forms for added units.

Emission Units

Checking a specific emission unit enables information for that unit, such as fuel usage, emission restrictions, SCC, etc., to be amended. Specific changes may require the TES form to be amended and validated.

.

Validate the form by selecting [Error Check]. This will create the package, or the specific areas that have been requested to be amended and take you to the <Transaction Overview page>. where you can begin preparing your submittal,

BAW AQ NEW UNIT CREATOR FORM (NEW FORM CREATOR)

PURPOSE To create individual forms (Fuel Burning Device (AP1), Process (AP2), Incinerator (AP3), Tank (AP-4),

and/or Stack, as well as, GHG-Only form if GHG emission reporting is required but this activity is not subject to SR emissions reporting; i.e. fugitive emissions for Natural Gas Distribution System, for added

emission units or stacks since your last submittal.

WHO MUST FILE THIS

FORM?

This form must be completed by the owner/operator/preparer submitting their package for any emission units or stacks added since your last submittal.

NOTE TO NEW FACILITIES OR FIRST TIME SUBMITTERS If you are a new facility, or this is your first submittal, you must complete a form for each emission unit and stack.

1. ENTER THE NUMBER OF NEW UNITS AND NEW STACKS TO ADD TO THIS PACKAGE

Fuel Burning Device (AP-1)

Entering a number here will add that number of Fuel Burning Device (AP-1) Emission Unit Forms for the number of new or replacement boilers, engines, furnaces, etc being added to the facility.

Process (AP-2)

Entering a number here will add that number of Process (AP-2) Emission Unit Forms for the number of new or replacement processes, which include coating and painting operations, being added to the facility.

Incinerator (AP-3)

Entering a number here will add that number of Incinerator (AP-3) Emission Unit Forms for the number of new or replacement incinerators being added to the facility.

NOTE: This form is not for afterburners or other pollution control equipment.

Tank (AP-4)

Entering a number here will add that number of Tank (AP-4) Emission Unit Organic Material Storage Forms for the number of new or replacement tanks being added to the facility.

Stack

Entering a number here will add that number of Stack Forms for the number of new or replacement stacks being added to the facility.

GHG Only (found on SRGHG package)

Entering a number here will add that number of GHG Forms for the number of new or replacement GHG Only units being added to the facility. Within the SRGHG package, GHG Only forms are used for emission units that are NOT subject to Source Registration Reporting; i.e. Natural Gas Distribution System - Fugitive Emissions.

IMPORTANT: Once the "New Unit Creator Form (New Form Creator)" is validated, the appropriate type and number of forms are created. If it becomes necessary to create additional form(s) for overlooked unit(s) at a later time, any individual "new unit" forms that have been previously validated will need to be re-validated. It is better to overestimate the number of form needed. Any unused new forms can be deleted on the <Transaction Overview page>..

Validate the form by selecting [Error Check]. This will create the specified number of requested form and return you to the <Transaction Overview page>. where you can proceed to the next form.

BAW AQ FACILITY INFORMATION FORM

PURPOSE This form provides contact and basic descriptive information about the facility.

WHO MUST FILE THIS FORM? This form must be completed by the owner/operator/preparer submitting their package.

HOW MANY VERSIONS OF THIS FORM ARE REQUIRED?

Submit one form for the whole facility.

IN WHAT ORDER SHOULD I COMPLETE THIS PACKAGE?

Complete this form first because it contains information that will populate the other forms in the Source Registration Package.

NOTE: Although you will be filling in certification statement information at the end of the form, the statement will not be certified until the Responsible Official (RO) completes STEP 2 of the eDEP electronic filing process "Signature". That step happens after all of the required forms have been filled in and validated.

NOTE FOR REPEAT FILERS:

Most of the information on this form will have been auto-filled by eDEP based on your prior submittal. You may make changes to most fields.

A. FACILITY INFORMATION

HOW TO CHANGE LOCKED FIELDS?

Facility Name and street address: You must contact your Regional Facility Maintenance File (FMF) Data Manager to change the facility name and/or address.

The list of MassDEP regional offices and the FMF Data Manager's phone numbers can be found on the Source Registration Website: https://www.mass.gov/guides/massdep-source-registration under MassDEP Bureau of Air & Waste: Source Registration Contacts.

To access the website open another internet browser window and copy and paste the URL into the address line.

The Facility AQ Identifier is a permanent identifying number assigned by MassDEP to a particular location. If you believe this number is incorrect (e.g. it is not the facility's AQID number shown on prior source registrations) contact BAW.eDEP@state.ma.us

The MassDEP Account number / FMF Facility # is assigned by MassDEP. If you believe the number is wrong (e.g. it is different from the number shown on your bill or permit approvals) contact your Regional FMF Data Manager. You cannot change it. The list of MassDEP regional offices and the phone numbers of the data managers can be found on the Source Registration web page:

https://www.mass.gov/guides/massdep-source-registration

1. Facility

a. Facility Name

The name must uniquely identify the facility. If the parent corporation operates more than one facility, the corporate name alone is insufficient.

NOTE: you cannot change the facility name: if you need to do so you must contact your Regional MassDEP FMF Data Manager.

b-h. Facility address information

Physical address for the facility (not mailing or corporate address, if different)

b. Facility Street Address Line 1	f. Zip Code
c. Facility Street Address Line 2	g. Facility Phone Number
d. City/Town	h. Facility Fax Number
e. State	

2. Mailing Address

Address where mail regarding the Source Registration and/or Greenhouse Gas notifications should be sent, if different from the street address above.

Facility mailing information rather than corporate/owner information, if they are different:

a-e Facility mailing information

a. Facility Mailing Address/PO Box Line 1 d. State
b. Facility Mailing Address/PO Box Line 2 e. Zip Code
c. City/Town

3 Facility Type:

Utility

Utility: Check this box if the facility is an utility facility, regardless of ownership (i.e. private, tribal, federal, state, local government)

PrivateTribal

Private: If the facility is an electrical utility facility, do not check this box, check the utility box Tribal: If the facility is an electrical utility facility, do not check this box, check the utility box

- Federal Government
- Federal: If the facility is an electrical utility facility, do not check this box, check the utility box
- State Government
- State: If the facility is an electrical utility facility, do not check this box, check the utility box
- Local Government
- Local Government: If the facility is an electrical utility facility, do not check this box, check the utility box

4. ORIS Facility Code

This only applies to large electrical utility facilities.

5. ID Numbers

These are assigned by MassDEP and cannot be changed.

a. DEP Account Number

This is the unique identification number, assigned by MassDEP, to represent your entire facility in its information management systems.

b. Facility AQ Identifier

This is the ID number, assigned by MassDEP, to identify your facility in MassDEP's computer system for storing this information.

6. Location

Latitude/Longitude (Lat/Long) Coordinates

a. Latitude

Valid Lat/long Ranges

b. Longitude:

Latitude: 42.9 – 41.2

Longitude: West 73.5° – 69.8° (enter positive values only)

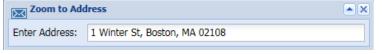
HOW TO FIND/VERIFY
THE LATITUDE/LONGITUDE
FOR YOUR FACILITY?

To find Lat/Long coordinates online:

[1] Go to MassDEP Online Map Viewer: http://maps.massgis.state.ma.us/images/dep/omv/wetviewer.htm

[2] In Map Tools, click on icon that looks like an envelope [22] (zoom to address).

[3] A dialog box opens on the map. Enter a complete street address for your facility (example: 1 Winter St Boston, MA 02108) into the dialog box (please include municipality and zip code), then click **Submit**.



[4] A pop-up window will appear with the address search results and a score indicating locational quality. The higher the value the higher the confidence in locational accuracy. Click a **Zoom** button next to the address to zoom the map to that address result.



- [5] An address marker will appear on the map indicating the estimated location of the address. To remove the marker from the map, click the **Clear** button in the lower right corner of the Zoom to Address window.
- [6] In Map Tools, click on "xy" icon x (XY Information), then click on the map where the front door of the facility.
- [7] A pop-up window will appear with coordinate information for that location and an orange cross will be displayed at the point where the map was clicked. If the location of the front door does not appear accurate, use the **Clear** button in the lower right corner of the XY Information pop-up to clear XY markers from the map. Then repeat Step 6.



[8] From the XY Information pop-up window, using the **Decimal Degrees version** of the Lat (Y) / Long (X) coordinates enter (copy & paste) the values into their corresponding fields on the form



7. North American Industry classification code(s) NAICs

The six-digit code that an owner/operator uses to classify their facility, by the type(s) of products they produce. It can be found on your facility's Federal IRS forms.

Your facility may be engaged in more than one line of business. You can list up to 4 different codes in the spaces provided. Enter your facility's Primary NAICS Code in field A.7.a.

HOW TO FIND NAICS CODES?

NAICS codes are six digit codes used to classify facilities by the types of products they produce. These are submitted on your Federal IRS forms. Additional information about NAICS codes can be found at the U.S. Census Bureau Website http://www.census.gov/epcd/www/naics.html.

8. Facility description

What is being produced and how it is being produced. e.g. Screen printed tee shirts.

9. Facility's normal hours of operation

Typical start and end times for the facility.

a. Start timeb. End Time

c. Continuous – 24x7x52

Check this box, if the facility typically operates twenty-four hours a day, seven days a week, and 52 weeks a year. If continuous is checked, all of the fields for the days of the week in question A.9.d will automatically become checked.

d. Which days is the facility open?

Check the days of the week that the facility is typically operating.

- S(unday)
- M(onday)
- T(uesday)
- W(ednesday)
- T(hursday)
- F(riday)
- S(aturday

HOW TO COUNT THE NUMBER OF EMPLOYEES

The maximum number of employees that worked at the facility any time during the Year of Record. Include in this count only those employees who meet both of the following conditions: The employee worked at least 17 hours a week and more than 20 weeks per year.

10. Number Of Employees

Enter the number of employees

WHO IS THE OWNER?

The owner is the individual or entity which has the care, charge, or control of a facility that is reported on your Federal Employer Tax Identification Number.

11. Facility Owner

Name of corporation, partnership, etc. if separate from facility. If facility owner's address is the same as the facility's mailing address, check this box and the mailing address information will be filled in automatically;

Report the facility information as reported on the Tax Identification Number (TIN) Form for your facility. TIN is also referred to as Federal Employee Identification Number (FEIN) or Employee Identification Number (EIN).

Please contact your MassDEP Regional Office if the ownership of this facility has changed.

BAW Source Registration &/or Greenhouse Gas Instructions Facility Information Form Page 39 of 230 September 2018

Name of corporation, partnership, etc. if separate from facility.

a. Owner or Corporation Name	g. Country
b. Mailing Address Line 1	h. Owner TIN (Taxpayer Identification Number)
c. Mailing Address Line 2	i. Owner Phone Number
d. City/Town	j. Extension
e. State	k. Owner Fax Number
f. Zip Code	I. Owner E-mail Address

12. Facility contact information contact

The name of the individual who should be contacted for further information about the facility information.

If contact name and/or address was listed previously, check appropriate box and the information you provided will be filled in automatically;

Otherwise provide the requested information:

a. Facility Contact First Name and Last Name	g. Country
b. Mailing Address Line 1	h. E-mail Address
c. Mailing Address Line 2	i. Phone Number
d. City/Town	j. Extension
e. State	k. Fax Number
f. Zip Code	

COUNTRY - FOREIGN OWNERS

OWNER TIN -PLEASE CORRECT YOUR TIN

If the facility owner has an address other than USA or Canada, please enter the facility's address in Q.11 and then put the correct owner address in the Notes field at the end of the form.

If this number is not the TIN of the facility owner, please enter the correct TIN – we will update our records before the next reporting cycle.

13. Air emissions information contact

The name of the individual who should be contacted for further information about the source registration form(s).

If contact name and/or address was listed previously, check appropriate box and the information you provided will be filled in automatically;

a. Air Emissions Contact First Name and Last Name	g. Country
b. Mailing Address Line 1	h. E-mail Address
c. Mailing Address Line 2	i. Phone Number
d. City/Town	j. Extension
e. State	k. Fax Number
f. Zip Code	

14. GHG emissions information contact (for SRGHG package)

The name of the individual who should be contacted for further information about greenhouse gas emissions .

If contact name and/or address was listed previously, check appropriate box and the information you provided will be filled in automatically;

BAW Source Registration &/or Greenhouse Gas Instructions Facility Information Form Page **40** of **230** September 2018 **NOTE**: this section will not appear if the facility is only submitting a Source Registration package.

Otherwise provide the requested information:

a. GHG Emissions Contact First Name and Last Name	g. Country
b. Mailing Address Line 1	h. E-mail Address
c. Mailing Address Line 2	i. Phone Number
d. City/Town	j. Extension
e. State	k. Fax Number
f. Zip Code	

B. PREPARER

1. Contact information for preparer of this submittal

The name of the individual who should be contacted for further information about this submittal. If contact name or address were the same as one listed previously, check appropriate box and the information you provided will be filled in automatically;

Otherwise, provide the requested information:

a. Preparer Contact First Name and Last Name	g. Country	
b. Mailing Address Line 1	h. E-mail Address	
c. Mailing Address Line 2	i. Phone Number	
d. City/Town	j. Extension	
e. State	k. Fax Number	
f. Zip Code		

C. NOTES AND ATTACHMENTS

1 Notes:

Information that will help MassDEP understand your submission. If an attachment will be associated with this form, identify any additional, explanatory material that you are choosing to submit

2. Attachments

Check this box if additional information will be included as an attachment. If the additional material can be sent electronically (20 MB document), check the box on the appropriate form. You will be prompted just before Step 2 for the attachment.

D. CERTIFICATION

NOTE: The certification statement won't be "signed" and certified until the second step of the eDEP reporting process: "2. Signature"

The RO completes the "Signature" step, and by so doing "signs" the certification statement. When that is done, you will be able to proceed to step 3 "Submit" t.

If you are not the RO you must "Share" the completed package with that individual so that they can complete the signature step. They will have to create a user ID and provide their 'nickname' to allow you to share the package with them.

SIGNATURE OF RESPONSIBLE OFFICIAL (RO), SIGNED UNDER PAINS AND PENALTIES OF This Certification statement must be reviewed and signed under the pains and penalties of perjury by a RO at the location. If an agent has been designated to complete this form, the RO must review the forms and sign the certification statement.

BAW Source Registration &/or Greenhouse Gas Instructions Facility Information Form Page **41** of **230** September 2018

PERJURY WITH SUBMISSION DATE

CAUTION: In order to be considered a "RO" an individual must meet the criteria listed in <u>Appendix A:</u> Definitions or see below.

eDEP will insert the signature and date when the form has been signed electronically.

WHO IS A RESPONSIBLE OFFICIAL?

*For a Sole Proprietorship: The RO is the sole proprietor.

*For a *Partnership:* The RO is a general partner with the authority to bind the partnership.

*For a Corporation or a non-profit corporation: The RO is a corporate official with authority to bind the corporation such as a:

- 1) President.
- 2) Secretary,
- 3) Treasurer,
- 4) Vice president of the corporation in charge of a business function, or
- Any other person who performs similar policymaking or decision-making functions of the corporation.

*For a *Municipality or other public agency:* The RO is any one of the following individuals:

- (1) A principal executive officer or
- (2) A ranking elected official who is empowered to enter into contracts on.

WHAT IF YOU ARE NOT A RESPONSIBLE OFFICIAL?

When a preparer is not a RO, he or she can complete and validate the forms but cannot sign or submit the package. Instead, the preparer **must return** to the <Transaction Overview page>.and "share" the completed package with a RO who in turn completes the Signature phase (signs the package) and submits it to MassDEP.

HOW DO I SHARE THIS PACKAGE?

To share your package:

- 1. From the <Transaction Overview page>., select Share Transaction.
- 2. On the Share Submittal page, select the Add button
- 3. When Add button selected, enter the Responsible Official's nickname in the "Share With" field, for "Role" select Editor&Signer (this allows the RO to edit, sign & submit the package), and include an end date for sharing the submittal.
- 4. Select the Add button again at the bottom of the page
- 5. The RO's first and last name with the role will appear in the Shared With field.
- 6. Once you have confirmed the RO contact information is correct, select the back button to return to the Transaction Overview page.

NOTE: a "RO", must register with eDEP before the preparer can share the package.

1. Responsible Official (RO) information:

a. Print First Name

d. Phone Number

b. Print Last Name

e. E-mail Address

c. Title

Validate the form by selecting [Error Check]: the system will identify and require correction of any mistakes before it will accept the form and return you to the <Transaction Overview page>. From there, you can move on to the next form.

BAW AQ EMISSION UNIT -INSTRUCTIONS: FUEL BURNING DEVICE (AP-1)

PURPOSE

This form describes equipment, fuel use, and associated air pollution emissions at the facility during the calendar year being reported from all combustion processes, except waste incineration and air pollution control equipment "combustion devices", such as flares or afterburners.

WHEN IS THIS FORM APPLICABLE?

This form applies to any fuel burning emission units at your facility excluding:

- Waste incineration and their auxiliary burners; reported as an Incinerator (AP-3);
- o Process heaters, dryers, ovens usually reported as a Process (AP2), and
- o Air pollution control equipment reported on the appropriate form for the units controlled.

Source Registration reporting applies to any owner/operator of a facility if such facility meets any of the criteria in 310 CMR 7.12(1)(a)1-11

1. Has a facility-wide maximum energy input capacity in BTU/hour from fuel utilization facilities equal to or greater than the following size thresholds:

a. All Fuels 40,000,000; b. Residual Fuel Oil 10,000,000; c. Solid Fuel 3,000,000; d. Used Oil Fuel 3,000,000; or e. Landfill Gas 3,000,000.

- 2. Has a maximum energy input capacity in Btu/hour from any fuel utilization facility emission unit that combusts natural gas, propane, butane, or distillate oil equal to or greater than the 10,000,000 Btu/hour.
- 7. Is or contains a stationary reciprocating internal combustion engine (except for emergency or standby engines) with a maximum energy input capacity of 3,000,000 Btu per hour or greater (burning any fuel).

NOTE: Once a facility is subject to 310 CMR 7.12, all emission units and processes at the facility shall be included in the Source Registration even if, individually, certain emission units and processes may not meet the applicability thresholds of 310 CMR 7.00.

HOW MANY VERSIONS OF THIS FORM ARE REQUIRED?

Submit one form for each boiler, furnace, internal combustion engine (e.g., diesels or turbines), or other combustion unit. You may combine reporting for more than one fuel burning unit on a single form. (see <u>combined units</u> for further guidance). You must include any fuel utilization units added or decommissioned since your last submittal.

CAUTION: Once your facility has exceeded any threshold for Source Registration, you must report on all sources that release any air contaminants at your facility. No sources that release any air contaminants may be excluded from Source Registration, except those listed as "Insignificant Activities" under 310 CMR 7 Appendix C(5)(i). This includes units that are idle – you must report on all idle combustion units at the facility whenever you submit a Source Registration.

CAUTION: FOR FILERS WITH NEW COMBUSTION EMISSION UNITS SINCE THEIR LAST SUBMITTAL You must create a new emission unit form for any new emission unit. If you have not already created the new emission unit (when first opening your source registration package), you must either:

1) Under Transaction Overview, open the first form labeled <AQ Source Registration Package> or < AQ Source Registration & Greenhouse Gas Package>;

- Under Section A, Q.1 check the box that indicates new equipment has been added;
- Under Transaction Overview, select <New Unit Form Creator (New Form Creator)>;
- Choose the appropriate form and enter the number of new units;
- Validate the form by selecting [Error Check];
- Follow subsequent instructions.

----Or----

- 2) You must create a new eDEP partial AQ Source Registration package for that emission unit. Once you have submitted the package you are working on:
 - Return to "Forms", "Air & Climate",";
 - Select your package using "Start Transaction;
 - In Preform, if correction is to a prior reporting year submittal, change the reporting year using the drop down list;
 - In Overview Form: unselect Existing Facility and put a check mark by the units that you
 want to amend. Or if you need to add a unit, check the box under A.1 "check if you added
 emission units";
 - Follow subsequent instructions pertaining to the New Unit Form Creator (New Form Creator).

IMPORTANT: Before amending your package for the current reporting year, email BAW.eDEP@state.ma.us to confirm that your submittal has been accepted by MassDEP.

CAUTION: If you realize in the midst of completing this package that you need to create additional forms, DO NOT return to the Overview Form UNLESS you are willing to revalidate each previously validated form. Revalidation requires that you open and revalidate every form in the package – you don't lose any of the data you have entered, but the process can be time consuming, particularly for a facility with more than 5-10 validated forms.

The best way to add emission units AFTER you have completed much of your package may be by submitting a supplemental package (Option 2 above).

CAUTION: REGARDING THE ORDER IN WHICH YOU COMPLETE YOUR FORMS If this unit's emissions release point is a new "vertical release point" (stack). You must create and complete a BAW AQ Stack form for that new stack prior to completing this form. The stack drop down-menu (A.13) will not contain the new stack and you will be unable to validate this form and will be forced to Save and then Exit this form. You will have to return to complete it after validating the new stack for the replacement stack.

A. EQUIPMENT DESCRIPTION

NOTE: In general the information requested below will be pre-populated from MassDEP's Air Quality database. However, certain data submitted to MassDEP in a different format (i.e. CRIS)was not historically stored in Air Quality database. That data will not appear on the electronic forms until it has been submitted in this format.

With certain exceptions, which will be noted, the preparer can edit any information listed below.

TIP: If you obtained a plan approval for the emission unit(s) you are reporting on you will have received two documents from MassDEP: 1) a plan approval letter and 2) a copy of the permit application that you submitted to MassDEP. It will be easier to fill out the Source Registration forms if you refer to those two documents.

1. Facility Identifiers

a. Facility Name

b. DEP Account Number

c. Facility AQ Identifier

The name and identifying numbers of the facility that you are reporting.

This will be pre-populated from the information on your BAW AQ Facility Information Form.

NOTE: You cannot change the facility name on this form. To change the facility name you must contact your MassDEP Regional Office FMF Data Manager.

How is a flare reported?

When a flare is a control device for a process emission unit, is should be reported as such on the AP-2 Form for that process unit. If this unit was previously reported as an incinerator on an AP-3 form, please do the following:

- 1. report the flare on the Process (AP-2) form that it controls,
- 2. note in Section C: Notes on the Process (AP-2) form that you are reporting the flare on the Process (AP-2) form rather than the Incinerator (AP-3) form, and
- 3. enter a decommission date in the Incinerator (AP-3) form (causing it to be removed in future submittals) and enter 0 for all throughputs and emissions.

EXCEPTION: Flares at landfills should be reported on a Fuel Burning Device (AP-1) form.

How should ovens and/or dryers be reported?

Ovens and dryers should be reported on one form only. If the oven or dryer has no emissions other than those from fuel combustion (the oven or dryer is used to drive off water and produces water vapor only), then Fuel Burning Device form (AP-1) should be used. This will allow the auto calculation feature to be utilized, if available.

However, if other emissions are present, such as solvents that are baked off, then the oven or dryer should be reported on Process form (AP-2).

GAN I CHANGE THE RESPONSES TO THE EMISSION UNIT IDENTIFIER FIELDS? eDEP allows you to change the name (2.a) and give your own number (2.b) to each emission unit. MassDEP keeps track of the units by the DEP number (2.c), and therefore you cannot change it.

2. Emission unit identifiers

If this is a new Emission Unit: Assign the emission unit a name/number in order to uniquely identify it.

a. Facility's choice of emission unit name- edit as needed.

If this is an existing Emission Unit: Assign or change the emission unit name/number in order to uniquely identify it.

b. Facility's emission unit number / code – edit as needed.

A unique name of your choice that will allow you to recognize this unit on future reports

A unique number or code of your choice that will allow you to recognize this unit on future reports. Example: Boiler #1, Emergency Generator #2, Fire Pump #3 etc.

c. DEP emission unit # -

This is a unique number assigned by MassDEP that allows MassDEP to recognize the unit on future reports

If this is a new Emission Unit, the field is blank and locked – MassDEP will assign this number

If this is an existing Emission Unit, the information will be pre-populated for existing emission units.

d. ORIS id # – for large electrical utilities only

This information will be populated from the BAW AQ Facility Information form.

e. Combined units- enter number of individual units

Total number of individual units combined on this form.



- 1. Fuel burning units (except Incinerators) can be combined as one emission unit IF EACH INDIVIDUAL UNIT is of the same type AND uses the same fuel(s) AND is below the following thresholds: Distillate oil -- 10 MBTU per hour or 72 gal per hour; Residual oil -- 5 MBTU per hour or 32 gal per hour; Natural gas -- 10 MBTU per hour or 100 Therms per hour; Solid fuel -- 3 MBTU per hour; Used oil fuel -- 3 MBTU per hour or 19 gal per hour; Landfill gas -- 3 MBTU per hour or 180,000 cf per hour
- 2. Process related equipment can be combined as one emission unit IF: Similar pieces of equipment that are used interchangeably to create the same product may be reported on one form as a combined emission unit; OR Similar pieces of equipment may be combined as one emission unit IF EACH INDIVIDUAL UNIT has the same applicable requirements AND is below the following reporting thresholds: Particulate matter 2 tons per year; Organic material 10 tons per year; Lead 0.5 tons per year; Hazardous air pollutants 10 tons of any individual HAP or 25 tons of total HAPs
- 3. Incinerators can NOT be combined.

WHAT ARE COMBINED UNITS AND WHEN CAN INDIVIDUAL UNIT OPERATIONS BE REPORTED AS COMBINED UNITS? Fuel burning units can be combined as one emission unit and reported on one Fuel Burning Device (AP1) or Process (AP2) form. This is to make it easier to report large numbers of small units. The number of units in a combined unit must be entered in the "combined units" field.

Combustion units may be combined subject to certain restrictions below. **Restrictions on Combined Units** Each individual unit within a combined unit must:

 be of the same general type (not necessarily identical); including the use of same general type of air pollution control (APC) devices (not necessarily identical), if applicable.

NOTE: Only list one of the APC devices in Question 14.

- 2. use the same fuel(s);
- 3. be subject to the same regulatory restrictions;
- 4. be below the following maximum input thresholds:

Distillate oil -- 10 MMBtu / hour or 72 gal / hour;

Residual oil - 10 MMBtu / hour or 64 gal / hour;

Natural gas – 10 MMBtu / hour or 100 Therms / hour;

Solid fuel – 3 MMBtu / hour;

Used oil fuel - 3 MMBtu / hour or 19 gal / hour;

Landfill gas – 3 MMBtu / hour or 6,000 cf / hour

 AND the total heat input of all units in the combined unit does not exceed 40 MMBtu/hour.

HOW DO YOU ENTER DATA FOR COMBINED UNITS?

When entering data for combined units use these guidelines:

- Manufacturer/Model No use the most common manufacturer/model or enter "combined".
- Installation Date enter the install date for the oldest of the individual units.
- Permit Date enter the most recent permit number and date for the units.
- Max capacity / potential enter the sum of the maximum capacities of all of the individual units as the maximum capacity for the combined unit.
- Decommission date do not decommission until the last individual unit is gone; if you need to add or subtract units from the combined unit, then increase or decrease the value in the Combined Units field to reflect the change and explain in the Notes field.
- Air Pollution Controls: enter one of the controls in Question A.14. In Section C:
 Notes field identify which emission unit is associated with this specific device.

 Enter the remaining APC devices and associate it with the appropriate emission unit in Section C: Notes. Include: APC device type, manufacturer, model number, Facility's ID for this Device, installation date, pollutant(s) and percent efficiencies.
- Explain in Section C: Notes field which units have been combined (list them) and
 any issues or oddities about the combined unit. Include the locations of the
 combined units if they are not in the same building at the facility.

NOTE: For each individual unit that has been combined on this form, enter in Section C: Notes the following information: manufacturer, model number, max input ratings-MMBtu, if applicable, installation date, APC devices, if applicable (include: APC device type, manufacturer, model number, Facility's ID for this Device, installation date, pollutant(s) and percent efficiencies), and location of units if the units are not located together

f. Is GHG emissions reporting required for this emission unit? (for SRGHG package)

A GHG emission reporting is required for all combustion units. A "Yes" response is present and this field is locked.

NOTE: If Section B contains a fuel, then GHG emissions' reporting is **ALWAYS** required for this unit. If this unit also has multiple raw materials or finished products, a similar question is present in Section B to prevent GHG emissions reporting for any raw materials or finished products that do not have GHG emissions.

3. Emission unit installation and decommission dates

Provide the requested dates in the appropriate lines. If the unit was installed many years ago and you do not know the exact date, use your best approximation.

a. Installation dates – estimate if unknown (mm/dd/yyyy)

The date on which the unit became operational. Do not leave blank: Estimate if unknown.

b. Decommission dates – If applicable (mm/dd/yyyy)

Complete only if the unit was shut down permanently or replaced any time before December 31st of the year of record.

DELETE A UNIT HELP TEXT

Enter a decommission date in 3.b IF the unit is being permanently taken out of service. For fuel burning devices or Incinerators, if the equipment is not removed, MassDEP considers a unit as permanently taken out of service if the fuel lines are cut or the burner head has been removed.

HOW / WHEN TO DELETE A UNIT?

Enter a decommission date in 3.b if the unit is being **permanently taken out of service**. If the decommissioned unit operated in the year of record, the emissions from that unit must be included in this package. Therefore units "decommissioned" in this package will remain on the list of emission units for this year of record. They will NOT appear on the NEXT year of record package.

For Fuel Burning Devices (including those associated with Process equipment), if the equipment is not removed, MassDEP considers a unit as permanently taken out of service if the fuel lines are cut or the burner head has been removed.

NOTE: If you decommissioned a unit prior to the year of record (and are decommissioning it in this package) you must enter zero for the maximum hourly fuel rate, annual fuel usage, actual emissions, and potential emissions. Failing to enter zero for the maximum firing rate will cause the form to calculate non-zero potential emissions, which cause your facility wide PTE to be incorrect on the TES.

NOTE: In cases where you have combined units, and took one (or more) out of service DO NOT enter a decommission date. Simply change the number of combined units in the combined unit's field. Do not decommission the EU unless ALL of the combined units are taken out of service.

- 4. Emission unit replacement
- a. Is this unit replacing another emission unit?

Check the appropriate box, yes or no. If Yes, then complete 4.b. Otherwise, continue on to Question 5.

b. DEP's emission unit number and facility unit name.

Choose from the drop-down menu. It is populated with the emission units you decommissioned in this and previous submittals for this year of record.

Line A.4.b. "DEP's emission unit number and facility's name for emission unit" is a

HOW TO BE SURE THE UNIT BEING REPLACED APPEARS IN THIS MENU?

mandatory field when the "yes" box is checked. However, the unit being replaced will not appear as a choice on the drop-down menu until it is decommissioned. You will not be able to complete and validate this form for a replacement unit until you have first entered a decommission date and completed and validated the form for the unit it is replacing. If this unit is replacing another unit that has not been "decommissioned", you must 1) save and exit this form, 2) open the form for the unit being replaced, 3) enter the decommission date, 4) complete and validate the form by selecting [Error Check] before you can complete this form.

WHAT IF ONE EMISSION UNIT IS REPLACING MORE THAN ONE UNIT?

If one new emission unit is replacing several units, pick one of the units being replaced on the drop-down menu and note the others in Section C Notes.

5. Equipment

EPA Unit Type Code

Choose from drop-down menu.

NOTE: Use EPA Unit Type Code: "OTHER COMBUSTION" for roof-top units, air make-up units, all heaters (i.e. space heaters, water heaters, building heater, etc.) EXCEPT if the the heater is used as part of a process then use EPA Unit Type Code: "PROCESS HEATER". The complete list of EPA Unit Type Code can be found on the SR website:

References You Will Need

EPA unit type code help text

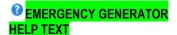
Unit Type Code is a field required by US EPA for the National Emissions Inventory. Please select the most appropriate category from the drop menu. (The complete list of EPA Unit Type Codes can be found on the SR website: References You Will Need.) If none are close for your unit, choose one of the "Other..." or "Unclassified" type codes and provide additional information in field A.5.a Other EPA Unit Type (describe). This field allows for 50 characters.

a. Type:

This field will be locked and should be the same response that is present in the EPA Unit Type Code field, except when the EPA Unit Type Code is OTHER COMBUSTION OR UNCLASSIFIED. When one of these responses is present in the EPA Unit Type Code field then Type field is unlocked to allow for a description of the equipment type; this field allows for 50 characters.

a1 If engine, is this an emergency generator?

If EPA Unit Type Code is RECIPROCATING IC ENGINE, a response is required to this field. If EPA Unit Type Code is not RECIPROCATING IC ENGINE, skip to question 5.b



When EU is identified as an emergency generator, updates to additional fields will be needed. Remember if you have a permit with restrictions in usage -- be sure to enter that restriction in B.1.h or i. Also, you may calculate your "Potential emissions" and "Max Allowed Emissions-Annual" in Section B.3 based on the restriction in usage.

HOW TO RECORD RESTRICTIONS ON EMERGENCY ENGINES?

The 300 hour operating restriction for emergency engines was removed from MassDEP regulations effective March 9, 2018. The restrictions for emergency engines reported in a Source Registration will now vary between facilities.

Owners of emergency engines that have plan approvals that limit operation to 300 hours per year should continue to report that restriction on their Source Registration. Such owners may apply to MassDEP for an administrative amendment of the plan approval to remove the 300 hours limit. Owners can also choose to keep the 300 hour restriction in their permit if they so desire and continue reporting this on their Source Registration. Those without a specific permit condition for 300 hours need to remove the restriction from their next Source Registration (question B.1.h Annual usage restriction (for this fuel)).

If a facility prefers to calculate their potential to emit for their emergency generators at less than maximum capacity uncontrolled, then they may use the following assumptions. A September 6, 1995 EPA memo (https://www.epa.gov/sites/production/files/2015-08/documents/emgen.pdf) states that "The EPA believes that 500 hours is an appropriate default assumption for estimating the number of hours that an emergency generator could be expected to operate under worst-case conditions. Alternative estimates can be made on a case-by-case basis where justified by the source owner or permitting authority (for example, if historical data on local power outages indicate that a larger or smaller number would be appropriate)." MassDEP agrees with EPA's guidance for calculating the potential to emit for an emergency engine (i.e., assume 500 hours of engine operation unless there are site-specific reasons that warrant a different estimate).

Important: Facilities whose actual emissions can fit within a 25% or 50% cap should investigate registering a cap through the new ePLACE Portal – it's easy and you can find out more here: Facility Emissions Cap

If an emergency generator, please give the number of hours of operation during the reporting year for each category of operation:

a2 Emergency use

Enter the number of hours of emergency operation during the reporting year

a3. Non emergency use

Enter the number of hours of operation for purposes other than emergencies, maintenance, or readiness testing during the reporting year

a4. Maintenance and readiness testing

Enter the number of hours of operation for only maintenance and readiness testing during the reporting year

WHAT TO DO IF DATA
UNKNOWN OR NOT AVAILABLE?

Do not leave blank: if date or numeric field – estimate; for other fields enter UNKNOWN, if unknown.

b. Manufacturer

Firm that built the unit, information can be usually found on metal nameplate on unit. Do not leave blank: enter UNKNOWN, if unknown.

Provide the requested information for the combustion unit.

c. Model number

Information can be found on metal nameplate on unit. Do not leave blank; enter UNKNOWN, if unknown.

Provide the requested information for the entire combustion unit.

d. Maximum input rating MMBtu/hr

Maximum rated capacity regardless of permit limitations. Information can be found on metal nameplate on unit. Do not leave blank.

Tip: The manufacturer's maximum input rating is located on a metal nameplate on the unit. It is usually expressed in Btu per hour or gallons per hour for engines. If the unit is not an engine and burning oil, to convert the value from gallons to Btu use the appropriate Oil Heat Values found in <u>Table C.1.3-2</u>. Identify the appropriate Heat Value BTU per gallon based on the Fuel Type and Sulfur Content % by weight found in the chart. Remember to check that the maximum input rating is in **Million Btu** per hour (MMBtu/hr).

e. Number of burners

Provide the requested information for the entire combustion unit.

f. Type of burner

Check the appropriate box. Provide a description if checked "other".

Rotary Traveling grate Air atomizer
Mech. Atomizer Hand fired Steam atomizer

Other: specify "other" burner type

g. Burner manufacturer

Provide the requested information for the burners.

h. Burner model number

Do not leave blank: Estimate if unknown.

i. Burner installation date (mm/dd/yyyy)

The date on which the unit became operational. Do not leave blank: Estimate if unknown

What if the emission unit has more than one MassDEP approval?

Cite the most recent plan approval that includes specific requirements applicable to this emission unit. Do not cite an approval that sets a general requirement for the facility as a whole, unless it also establishes specific conditions for this emission unit. Approvals that apply facility-wide are cited on the TES form. Similarly do not cite your most recent Air Operating Permit if you have one unless a more stringent limit is established in the operating permit for the emission unit. Usually the Air Operating Permit is a compilation of requirements included in other plan approvals or applicable regulations.

NOTE: A particular plan approval may be cited more than once in the package or on a form. For example, a plan approval that includes specific requirements for more than one emission unit will be cited on the form for each emission unit it covers. Similarly if a plan approval specifies conditions for the emission unit and for the monitor, raw material, fuel, and/or air pollution control device it will be cited on each applicable question on the emission unit form.

6. DEP Air Quality Approvals

If a plan approval is required: Write the number for the plan approval that allowed the installation of the emission unit. This number is found on the letter sent by MassDEP that informed you that they approved the unit.

NOTE: Some emission units will not have plan approvals because:

- 1. they are below the threshold for which a plan approval or permit is required;
- 2. they were installed before the effective date of the regulation; or
- 3. they were "permitted by rule" installed in accordance with the provisions of 310 CMR 7.03: U Plan Approval Exemption.
- a. Most recent approval number

Most recent plan approval or emission control plan or restricted emission status (excluding the facility's "Air Operating Permit") number applicable to this unit, from MassDEP plan approval letter.

b. DEP approval date (mm/dd/yyyy) Date of most recent plan approval or emission control plan or restricted emission status (excluding the facility's "Air Operating Permit") applicable to this unit, from MassDEP plan approval letter listed in Question 6.a.

7. Is this unit exempt under 310 CMR 7.02 Exemptions from Plan Approval?

Check the appropriate box.

8. If exempt from Plan Approval, indicate reason why (cite a specific MassDEP AQ Regulation)

If Question 7 is yes, then a response is required; if no, then skip to Question 9. Select your response from the drop down list

9. Additional reporting requirements

Check the appropriate boxes to report on the existence of any reporting requirements other than source registration for this emission unit and the frequency of that reporting.

a. Are there other routine air quality reporting requirements for this emission unit?

If yes, specify reporting frequency in 9.b. If no, skip to Question 9.c.

b. Reporting frequency – check all that apply:

Monthly, Quarterly, Semi-annual, Annual, RES (Include Operating Permit and Plan Approval reports, but not exceedance reporting)

c. Is this unit subject to (check all that apply):

NESHAP, NSPS, MACT

10. Hours of operation for the emission unit:

Report on typical operation.

a. Check if typically continuously operated - 24 x 7 x 52

If checked, then these questions will auto-fill with the following responses:

> 10.b: 24 > 10.c: 7 > 10.d: 52

> 10.e: Q1; Q2; Q3; Q4: 25 in all four quarters

11.a: 2411.b: 711.c: 22

b. Number of hours per day

Typical operation Acceptable range: 0-24

c. Number of days per week

Typical operation Acceptable range: 0-7

d. Number of weeks per year

Actual operation
Acceptable range: 0-52

e. Percent of time emission unit is operated each calendar quarter:

Actual percent of total annual operations that occurred in each season (e.g. 40% in Q1, 30% in Q2, 20% in Q3 and 10% in Q4) unit operated.

Sum of Q1+Q2=Q3+Q4 must = 100% (or 0%, if the unit was not operational for any quarter).

Q1 is January – March Q2 is April – June Q3 is July – September Q4 is October - December

11. Ozone season schedule – May 1 through September 30:

Actual operation during this period.

IMPORTANT: If you are using eDEP's auto-calculation feature to calculate your Ozone Season Emissions, these fields must be updated.

a. Ozone season hours per day

Typical operation Acceptable range: 0-24

b. Ozone seasons days per week

Typical operation Acceptable range: 0-7

c. Weeks operated in ozone season

Typical operation Acceptable range: 0-22

12. Emissions release point

Select the appropriate type of non-stack release point OR physical stack (release point). If Non-Stack Release Point, skip to Question 14.

Non-Stack Release Points: Physical Stacks

Fugitive Horizontal vent Vertical

Eng Exhaust Downward facing vent Vertical stack/vent less than 10ft

Vertical with rain cap/sleeve

What is a release point?

The Emission Release Point is the physical structure through which the emissions leave the facility and reach the ambient air. In eDEP, **only vertical release points are considered "stacks"** with assigned DEP and Facility Stack Numbers and an STACK form.

If the unit has a physical stack, you must link the unit to that stack in Question A.13.

What is the difference between stacks and non-stacks?

NOTE: If you have installed a new stack, it will not populate the drop-down menu unless you first complete and validate an STACK Form prior to opening this form. To complete the STACK Form, "SAVE" AND "EXIT" thisform. Open, complete, and validate the STACK Form of the new stack, and then return to this form.

What about unusual exhausts, such as short vertical vents?

NOTE: Some units exhaust vertically, but have housings shorter than 10 ft above the roof of the building (e.g., ventilation exhausts that may be 3-5 ft tall. This type of release point does not require a Stack form – Select vertical stack/vent less than 10ft in the Non-Stack Release Point group.

13. Link this unit to a physical stack (if applicable) - Pick from the list.

Facility's stack identifier (from the BAW Stack form) – to change stack name, use the Stack form.

If the stack for this unit is not listed, save and exit this form now and complete a new Stack form **before** completing this form.

CAUTION: If this unit's emissions release point is a new stack, you must have created and completed a Stack form for that new stack, prior to completing this form. If you do not have the stack information, you will be unable to validate this form; and will be forced to save and exit this form. Once you have created, completed, and validated the new Stack Form, then you may return to complete this form.

NOTE: If the emission release point in Question 12 is vertical or vertical rain cap/sleeve, then this is a required field.

14. Are there air pollution control (APC) devices on this emission unit?

Check the appropriate yes or no box. If no, skip to question 15.

How do I add a new APC?

If yes and no devices are present for this emission unit, select "Add New Control Device" button. OR if an existing device is not displayed, scroll to the end of question 14 and select "Add New Control Device" button.

When "Add New Control Device" button is selected, the form will reload with blank fields. Answer questions a through i. Once the information for the device has been added, select Update OR if you decide not to add a new device, select Cancel.

How are my existing APCs displayed?

NOTE: if the MassDEP database has active APC(s) for this emission unit, all the devices will be displayed in this section; the response will auto-fill with Yes and the field is locked. Confirm the information present for each device.

How do I revise an existing APC?

If the device information needs to be revised, select Edit found on the top right of the device that needs updating. Once the corrections have been made to the device, select Update OR if you do not to keep the corrections or decide not to make any changes, select Cancel.

What if my APC is used by other EUs?

If other emission units use the same air pollution control equipment, also report this information on the appropriate forms for those units.

Are Low Nox Burners considered control devices?

No – they are part of your equipment and should not be logged as separate control devices. If you have low NOx burners you should use emission factors that take into account their lower emissions. You should also mention in the notes that the unit incorporates low NOx burners. You can find such emission factors in EPA's emission factor database at: https://www.epa.gov/chief

How to delete an air pollution control device?

Delete an air pollution control (APC) device by entering a date in Decommission Date (A.14.h) field. Use this when you are removing the device permanently.

How to replace an air pollution control device?

If the APC was replaced in kind with a new model, enter the new installation date and replace the information on lines a-i, as necessary. Do not enter a "decommission date" - the MassDEP database tracks the change to the APC equipment automatically.

What to do if you don't know the date?

Provide your best approximation of the date if you do not know it. Do not leave blank.

- a e. Air pollution control device (description)
- a. Type ** (Use the Drop-down Menu)
- b. Manufacturer **
- ** required fields
- c. Model Number **
- d. Facility's ID for this Device. ** (the unique number assigned by the facility for the APC equipment)
- e. Installation Date ** (mm/dd/yyyy): The date on which the unit became operational.
- f h. Air pollution control equipment dates and approval numbers:
- f. MassDEP approval number (most recent)
- q. MassDEP approval date (mm/dd/yyyy)

NOTE: Not all air pollution control devices require plan approvals

- h. Decommission date (mm/dd/yyyy) Enter a date here only if the air pollution control device is being permanently removed and not replaced.
- i. Percent overall efficiency enter for all pollutants that the device was designed to control:
- ** required fields
- ** The Percent Overall Efficiency calculated which equals the APC equipment's Capture Efficiency (the percentage of the emissions that reach the air pollution control unit) multiplied by the APC equipment's Control Efficiency (the percentage of the emissions that are removed from the air stream by the Air Pollution Control Equipment.)
 - If you have stack-testing data on control efficiency: Use that information.
 - If you do not have stack-testing data: Use the manufacturer's suggested control efficiency. This is usually expressed as a range of percentages (e.g., 90%-97%). Use the upper end of the range.

PM10	PM2.5	SO2	CO	VOC	NO2
NH3	HOC	HYC	HG	PB	

Other: List any substances not already listed on the form that you are required to control per your plan approval, operating permit, or applicable regulation.

NOTE: Only one "Other" is available for each APC device,

What is the % overall efficiency?

The % overall efficiency for a device equals its ("% capture efficiency" X "% control efficiency"). This is critical for the automatic emissions calculations. This information can be found in the plan approval application, MassDEP's approval for the device and/or in the manufacturer's specification for the device.

15. Is there monitoring equipment on this emission unit?

Answer Yes or No, as appropriate. If no, skip to the questions in Section B. Fuels and Emissions

NOTE: if the MassDEP database has active monitors for this emission unit, all the equipment will be displayed in this section; the response will auto-fill with Yes and the field is locked. Confirm the information present for each device and update as needed

NOTE: Report on each monitor that is on the release point for this emission unit in the separate columns provided.

NOTE: If other emission units use the same release point, also report this information on the form for those units.

Do I need to include Fireye or other Flame monitors?

Fireyes, or any other brand of flame monitors, are not monitors that must be reported on an Fuel Burning device (AP-1) form.

How to delete a monitor?

Delete a monitor by entering a date in Decommission Date (A.15.h). Use this when you are removing the monitor permanently.

How to replace a monitor?

If the monitor was replaced in kind with a new model, enter the new installation date and replace the information on lines b-i as necessary. Do not enter a "decommission date"—the MassDEP database tracks the change to the monitor equipment automatically.

a. Monitor type:

Check the appropriate box for the type of monitoring device. Check only one for each monitor (use another column if there are other types of monitors on the release point.)

- CEMS
- Opacity
- Other: If other is checked then Describe "other" is required

How do I use CEM data?

If you use CEMs to determine annual emissions, report the CEMS emissions value in <u>Section B.3 Emissions</u> on this form. For each pollutant where the Calculation Method in <u>Section B.3 Emissions</u> is identified as CEMS, then that pollutant also needs to be identified as a montored pollutant in Question A.15.I

How do I use Part 75 reported values?

If your facility is subject to the annual emissions reporting under EPA's regulation 40 CFR 75, you must report the same value that you reported to EPA. See <u>Section B.3</u> Emissions <u>below</u>.

IMPORTANT: If your facility is subject to the reporting requirements of 40 CFR 75, see also questions A.15.d, A.15.e, and A.15.h, B.3 Actual for year of record, B.4 Ozone season emissions or D.2 Ozone season emissions for additional information.

b. Manufacturer:c. Model number:

The name of the manufacturer of the monitoring equipment attached to the stack and the model number assigned by the manufacturer.

d. Monitor ID #:

The unique ID that the owner/operator of the facility assigned to the monitoring device.

NOTE: For facilities subject to the reporting requirements of **40 CFR 75**: use 3-digit monitoring system ID as your monitor ID number

e. Installation date:

The date on which the unit became operational. Do not leave blank: Estimate if unknown.

NOTE: For facilities subject to the reporting requirements of **40 CFR 75**: use the "First Date System Reported Data" as the installation date.

f. DEP approval #: MassDEP approval number (most recent) from your permit or plan approval.

g. DEP approval date: MassDEP approval date (mm/dd/yyyy)

h. Decommission date: Enter a date here only if the monitor is being permanently removed and not replaced (mm/dd/yyyy).

NOTE For facilities subject to the reporting requirements of 40 CFR 75: use the "Last Date System

Reported Data" as the decommission date.

Whether or not this device is attached to the monitor.

i. Recorder? Yes or No Check box

j. Audible alarm? Yes or No Check box

Whether or not a data system that continuously logs monitoring data for future review is attached to the

monitor.

k. Data System? Yes or No Check box

What is a "data system"? A data system continuously captures monitoring data for future review and analysis.

. Monitored pollutants: Check the contaminants that are monitored by the monitoring device:

PM10 PM2.5 SO2 CO VOC NO2 NH3 Mercury Oxygen CO2 H2S HCL Opacity CH4

NO2 SF6 Refrigerants-CO2e

Other: List any substances not already listed on the form that you are required to monitor per your

plan approval, operating permit, or applicable regulation. **NOTE**: Only one "Other" is available for each monitor.

B. FUELS AND EMISSIONS (SECTION B PARENT FORM)

NOTE: In general, the information requested below will be pre-populated from MassDEP's Air Quality database. However, certain data submitted to MassDEP in a different format (i.e. CRIS) was not historically stored in Air Quality database. That data will not appear on the electronic

forms until it has been submitted in this format.

With certain exceptions, which will be noted, the preparer can edit any information listed below.

1. Fuel Name / Characteristics: Your choice of a unique name for this fuel.

DEP Fuel #: This is a unique number assigned by MassDEP that allows MassDEP to recognize this fuel

associated with this emission unit on future reports.

If this is a new Fuel, the field is blank and locked – MassDEP will assign this number.

If this is an existing Fuel, the information will be pre-populated for existing fuels associated with

this emission unit.

This ID number is a MassDEP assigned number and cannot be changed

Can I change the DEP fuel identifier?

BAW Source Registration &/or Greenhouse Gas Instructions Fuel Burning Device (AP- 1) Emission Unit Form Page 57 of 230 September 2018 Number of fuels for this unit (previous records):

This field identifies the number of existing fuels that are associated with this EU.

This information will be provided by the system.

For new emission units: This question is not applicable.

How does eDEP handle multiple fuels?

In eDEP, a separate Section B form is automatically created for each additional fuel on record based on the "Number of fuels for this unit (previous records)". Before checking the box to make a change, please note the following:

- 1) If you need to add a new fuel and "Number of fuels for this unit...." is greater than 1, wait to see the other fuels before checking this box, or
- 2) If you ceased using this fuel and "Number of fuels for this unit...." is 1, do NOT check "delete this fuel" unless you also check "Add a new fuel"; this form requires one active fuel to function properly.

NOTE: "Add a New Fuel" and "Delete this fuel" are present in all Section B forms..

Is GHG emissions reporting required for this fuel? (for SRGHG package)

In the Fuel Burning Device (AP1) form, this field will auto-fill with a Yes response and the field will be locked. If Yes, then complete Section B.

NOTE: all fuels associated with a fuel burning device are required to report GHG emissions. The response to this field should be Yes and the field will be locked.

Add a New Fuel:

Check the box if you need to add a fuel that you did not previously report (eDEP will add a blank Section B form to this Fuel Burning Device Form when you successfully validate it.) Any additional fuels will automatically appear when you error check this form so you do NOT need to check this field to make additional fuels appear if they have been reported on in a previous submittal. You can see the number of fuels already existing for this unit in the field: "Number of fuels for this unit (previous records)". Use this check box only for NEW fuels for this unit which you have never reported before.

Number of Additional Fuels:

When to not check "Add a new fuel" box

Enter the number of new fuels you need to add for this emission unit.

Any additional fuels will automatically appear when you error check this form so you do not need to check this field to make additional fuels appear if they have been reported on already in a previous submittal. You can see the number of fuels already existing for this unit in the field: "Number of fuels for this unit (previous records)". This check box is only for NEW fuels which you have never reported before.

Delete this fuel:

Check the box if you stopped using this fuel in this emission unit. You must still report for the year of record even if amount is "0" – the fuel will be removed from the unit for the next report cycle.

NOTE: If you ceased using this fuel and "Number of fuels for this unit...." is 1, do NOT check "delete this fuel" unless you also check "Add a new fuel"; this form requires one active fuel to function properly.

NOTE: If the response to A.3.b contains a decommission date (i.e., the emission unit is decommissioned), you do not need to select "delete this fuel".

a. Source Classification Code (SCC)

The SCC is an EPA code for the type of unit operation or production process or fuel. EPA's AP-42 (https://www.epa.gov/chief) contains the codes for each type of process, as well as emission factors that can, in certain circumstances, be used to calculate emissions for each unit.

SCC Description

If the SCC is pre-populated, the SCC Description will also be pre-populated. If you added or changed the SCC, the system will automatically fill in the SCC Description when the form is validated.

How does eDEP use Source Classification Codes (SCC)?

SCCs are standard codes EPA uses to identify different operations and their associated emissions factors, if available. The SCC you select is used to supply the emission factors for the automatic emissions calculation feature included in the eDEP system. The SCC also identifies the *Units per hour* which are used for your response to B.1.e: *Maximum hourly fuel rate for all firing burners*, B.2.b: *Annual usage*, and B.3 in pounds per unit (Emission Factor Units). The list of SCC valid in eDEP can be found at: https://www.mass.gov/guides/massdep-source-registration

If the SCC listed on the form **is wrong**, enter the correct code. If the form will **not accept the SCC** you are entering, contact MassDEP at BAW.eDEP@state.ma.us.

What SCC should be used for a residential boilers/water heater at a commercial/ institutional facility?

Use the following SCC Codes if the unit is less than 10 million Btu (MMBtu)

 Residual Oil (No. 6 Oil)
 10300403

 Distillate Oil (No. 2 Oil)
 10300503

 Natural Gas
 10300603

Other fuels same family of SCC Codes
Other unit sizes same family of SCC Codes

Are there any SCC Codes that should not be utilized on Fuel Burning Device (AP-1) form?

Fuel Burning Device Form (AP-1) is for combustion units and the auto calculation feature is an attribute specific to this form and relies on combustion SCCs as the basis for selecting emission factors. SCC Codes that are not for combustion units should not be used on this form, especially when using the auto calculation feature. This form will not validate non-combustion SCC Codes if the auto calculation feature is selected. Therefore, if non-combustion SCC Codes are to be used, vou must calculate your own emissions.

You can identify combustion SCC from the "category" field in the "<u>List of Valid Source</u> Classification Codes (SCCs)" posted on the SR Web Page.

b. Type of fuel:

This response is determined based on the SCC. If the SCC is pre-populated, the fuel type will also be pre-populated. If you added or changed the SCC, the system will automatically fill in the fuel type when the form is validated.

NOTE: If multiple types of fuel are used in this emission unit you must check the "Add a New Fuel" check box to add additional Section B forms for each fuel used. Once you successfully validate the current form the system will generate a blank Section B which will be found under this form as listed on the <Transaction Overview page>.

c. Sulfur content for oils and coal: (Acceptable Range 0 – 2.2)

The percentage of sulfur by weight for oil and coal, only.

TIP: This is determined by analysis of a fuel sample or can be found on the receipt from your fuel dealer.

BAW Source Registration &/or Greenhouse Gas Instructions Fuel Burning Device (AP- 1) Emission Unit Form Page 59 of 230 September 2018 d. Ash Content for oils and coal (Acceptable Range 0 – 10)

The percentage of ash content by weight for oil and coal, only.

TIP: This is determined by analysis of a fuel sample or can be found on the receipt from your fuel dealer.

e. Maximum hourly fuel rate for all firing burners:

The maximum fuel that all burners in this emission unit can fire in one hour, and the units of measurement from the drop-down menu (e.g., gallons per hour, tons per hour, million cubic feet per hour, etc.) is based on the chosen SCC Code.

Amount

IMPORTANT: You may need to convert the Amount so that the value is expressed for the units associated with the chosen SCC. For example, if the chosen SCC expresses the firing rate units in 1000 gallons/hr then 72 gallons/hr would be entered as 0.072 1000 gallons/hr.

Units per hour

This response is determined based on the SCC. If the SCC is pre-populated, the Units per hour will also be pre-populated. If you added or changed the SCC, the system will automatically fill in the Units per hour when the form is validated.

What is the definition of maximum hourly fuel rate for all firing burners?

The maximum rate is the rate at which the equipment **can operate**, assuming operations 24 hours a day, 7 days a week, irrespective of any regulatory restrictions.

f. Do you have fuel or usage restrictions?

These would have been expressed in a regulation, the plan approval you received from MassDEP for this emission unit or one that applies to several emission units. Check the appropriate yes or no box. If No, then skip to Question 2.

What if I have multiple unit fuel restrictions and multiple approvals?

If the same restrictions also apply to other emission units, report the restrictions on those emission unit forms, as well.

Cite the most recent fuel use restriction applicable to the fuel as it is used in this emission unit. The most recent fuel use restriction may be found in a regulation, an approval that applies only to this emission unit, or one that applies to several emission units, or the facility as a whole.

If a restriction applies to multiple units then list it here and on the forms for each other unit to which it applies.

g. DEP approval number for fuel restrictions: most recent for this fuel.

Obtain this from your plan approval letter. Cite either plan approval or regulation.

What if the restriction is mentioned in multiple approvals?

Enter the most recent approval number for the restriction.

HOW TO RECORD RESTRICTIONS ON EMERGENCY ENGINES?

The 300 hour operating restriction for emergency engines was removed from MassDEP regulations effective March 9, 2018. The restrictions for emergency engines reported in a Source Registration will now vary between facilities.

Owners of emergency engines that have plan approvals that limit operation to 300 hours per year should continue to report that restriction on their Source Registration. Such owners may apply to MassDEP for an administrative amendment of the plan approval to remove the 300 hours limit. Owners can also choose to keep the 300 hour restriction in their permit if they so desire and continue reporting this on their Source Registration.

Those without a specific permit condition for 300 hours need to remove the restriction from their next Source Registration (question B.1.h Annual usage restriction (for this fuel)).

If a facility prefers to calculate their potential to emit for their emergency generators at less than maximum capacity uncontrolled, then they may use the following assumptions. A September 6, 1995 EPA memo (https://www.epa.gov/sites/production/files/2015-08/documents/emgen.pdf) states that "The EPA believes that 500 hours is an appropriate default assumption for estimating the number of hours that an emergency generator could be expected to operate under worst-case conditions. Alternative estimates can be made on a case-by-case basis where justified by the source owner or permitting authority (for example, if historical data on local power outages indicate that a larger or smaller number would be appropriate)." MassDEP agrees with EPA's guidance for calculating the potential to emit for an emergency engine (i.e., assume 500 hours of engine operation unless there are site-specific reasons that warrant a different estimate).

Important: Facilities whose actual emissions can fit within a 25% or 50% cap should investigate registering a cap through the new ePLACE Portal – it's easy and you can find out more here: Facility Emissions Cap

h. Annual usage restriction (amount or hours) for this fuel:

Provide the maximum amount of fuel you are allowed to use in a year per your permit and the units of measurement from the drop down list, or the maximum amount of time you are allowed to use the unit in a year per your permit and the unit of measurement. Obtain this from your plan approval letter or regulation.

Quantity

Choose the units of measurement from the drop down list. If your units are not on the drop-down menu, email BAW.eDEP@state.ma.us

Units

If a restriction applies to multiple units then enter that same quantity here and on the forms for each unit to which it applies.

What if the restriction applies to multiple units?

Provide the maximum amount of fuel or time you are allowed to use over the short-term

i. Short term fuel usage restriction (amount or hours) for this fuel:

period specified in your plan approval. Obtain this from your plan approval letter or regulation.

Quantity:

Choose the units of measurement from the drop down list. If your units are not on the drop-down menu, email BAW.eDEP@state.ma.us

Units:

Check the appropriate box for the time period: Month, Week, Day or Hour.

Per:

2. Annual usage:

a. Amount -year of record

The actual amount of fuel used in this emission unit during the calendar year being reported Enter "0" if fuel not used in the year of record.

IMPORTANT - Remember you may need to convert the Amount so that the value is expressed for the units associated with the chosen SCC. For example, if the chosen SCC expresses the firing rate units in 1000 gallons then 72 gallons would be entered as 0.072 1000 gallons.

b. Units

This response is determined based on the SCC. If the SCC is pre-populated, the Units will also be pre-populated. If you added or changed the SCC, the system will automatically fill in the Units when the form is validated.

UNITS HELP TEXT

Units MUST match the units specified for the SCC. If the units for your data do not match the units for the SCC, you need to convert your values to units that match the SCC or select a different SCC.

c. Total annual usage for prior year of record

This information will be provided by the system based on your last submittal. For new emission units: This section is not applicable

TIP: Compare the annual usage from prior year of record to the current year's usage as a check. If they are orders of magnitude off, check the units.

B. SOURCE REGISTRATION EMISSIONS (PARENT FORM)

3. Total emissions for this fuel **only** in tons per year:

Provide the following information for all pollutants emitted by the emission unit for this fuel only

PM10-FIL PM2.5-FIL PM-CON SO2
VOC NH3 CO NO2
Specify other pollutant

CALCULATIONS: READ FIRST

The form will automatically calculate the actual and potential emissions unless you check a box to manually enter emissions for each specific pollutant.

The form will calculate emissions from your annual throughput, control efficiency you entered when the emission unit is equipped with air pollution control equipment and EPA default emission factors. To calculate your own emissions, check the box next to each pollutant's name (eDEP will calculate the emissions for any pollutant where you do not check the box).

Why you may want to calculate your own emissions values?

The emissions in Source Registration should be as accurate as possible, neither under- or overestimated. Please use engineering judgement to select the best information available for calculating your facility's emissions. The best information comes from CEMS, then from stack testing. If neither of these are available, use equipment_specific emission factors from the manufacturer (where such manufacturer's numbers represent actual performance rather than an emission limit the unit is guaranteed to meet) or_EPA factors when unit-specific data is not available. Ordinarily, permit limits should not be used to estimate actual emissions. See Appendix C for guidance on calculating your own emissions.

When is NH3 emissions required?

NH3 emissions is required if APC Device is SNCR (SELECTIVE NONCATALYTIC REDUCTION) OR SCR (SELECTIVE CATALYTIC REDUCTION)

PM Filterable vs. PM Condensable

The auto-calculation feature of the Fuel Burning Device Form has always used emission factors for filterable PM10 and PM2.5. MassDEP also reports PM emissions to EPA as filterable. Therefore, if you choose (or must) calculate your own emissions, **YOU SHOULD REPORT ONLY FILTERABLE PM10 AND PM2.5**.

Do NOT add in condensable emissions. Do not use emission factors for primary PM (e.g., PM2.5-PRI) which includes both filterable and condensable emissions. EPA generally labels emission factors for filterable PM as -FIL (e.g., PM2.5-FIL) whereas primary PM emissions factors are labeled –PRI (e.g., PM2.5-PRI).

Calculate condensable emissions separately

Actual (in Tons) for previous year :

This information will be provided by the system. For new emission units: This section is not applicable.

What are "actual emissions"?

Actual emissions are an estimate of the total tons of each pollutant emitted by the emission unit during the year covered by the report (the year of record). Emissions need to be calculated for each fuel; the sum of each pollutant's emissions is used to calculate the emission unit's total emissions. eDEP will calculate the actual emissions for each fuel, unless you have checked the box next to the pollutant. Please see Appendix C for more detailed information on calculating actual emissions.

Actual (in Tons) for year of record

Put a check in the appropriate box if you choose to calculate the emissions from this fuel yourself. Otherwise the system will calculate this information for each pollutant except for those that you put a check in the box.

NOTE: In many cases AP-42 or FIRE emission factors found in EPA's website (https://www.epa.gov/chief) can be used to estimate actual emissions.

CAUTION: The emissions in Source Registration should be as accurate as possible, neither under- or overestimated. Please use engineering judgement to select the best information available for calculating your facility's emissions. The best information comes from CEMS, then from stack testing. If neither of these are available, use equipment_specific emission factors from the manufacturer (where such manufacturer's numbers represent actual performance rather than an emission limit the unit is guaranteed to meet) or_EPA factors when unit-specific data is not available. Ordinarily, permit limits should not be used to estimate actual emissions. See Appendix C for guidance on calculating your own emissions.

NOTE: For facilities that also report under 40 CFR 75: If the unit reports SO2 or NOx under 40 CFR 75 monitoring provisions, on an annual basis, then the total emissions for all fuels reported here should equal that reported under 40 CFR 75.

IMPORTANT: If your facility is subject to the reporting requirements of 40 CFR 75, see also questions A.15.d, A.15.e, and A.15.h, B.3 Actual for year of record, B.4 Ozone season emissions or D.2 Ozone season emissions for additional information.

How do I use CEMs data?

If you use CEMs to determine annual emissions, report the CEMS emissions value on this form.

IMPORTANT: If you use CEMS data for your actual emissions, you must provide the CEMs equipment information in question A.15 and identify "Continuous Emission Monitoring System (CEMs)" for Calculation Method.

How do I use Part 75 reported values?

If your large facility is subject to the annual emissions reporting *for SO2 and NO2* under EPA's regulation 40 CFR Part 75, you MUST report the SAME value here as reported to EPA through the Clean Air Markets Division.

Potential Emissions (in Tons)

Potential Emissions are the uncontrolled maximum emissions assuming the emission unit operates at maximum capacity 24 hours per day, seven days a week, 52 weeks a year (8760 hours per year).

You may apply controls and restrictions to calculation the potential emissions only under the following conditions (see 310 CMR 7.00 Definitions, potential emissions): any physical or operational limitation on the capacity of the unit to emit any air contaminant or pollutant, including air pollution control equipment and/or restrictions on hours of operation, or on the type or amount of material combusted, stored or processed, shall be treated as part of the design **only if** the limitation is specifically stated in the facility's or stationary source's plan approval(s), approved emission control plan(s), operating permit, certification(s), restricted emission status, notification(s) and applicable regulations, or in the case of *de minim is* sources, in records established and maintained at the facility pursuant to 310 CMR 7.02(2)(b).

ENTER "0" if the unit was decommissioned prior to this year of record because the unit did not represent potential emissions during the year of record.

IMPORTANT: For each pollutant where your potential emission is based on controls and/or restrictions, you MUST also update the field "maximum allowed emissions – annual" with this same value.

The emissions resulting from the maximum operation of the equipment irrespective of any regulatory restrictions. (8760 hrs X Max Firing Rate X Emission Factor)

What are potential emissions?

NEW: you may apply controls and restrictions to calculation the potential emissions only under the following conditions (see 310 CMR 7.00 Definitions, potential emissions): any physical or operational limitation on the capacity of the unit to emit any air contaminant or pollutant, including air pollution control equipment and/or restrictions on hours of operation, or on the type or amount of material combusted, stored or processed, shall be treated as part of the design **only if** the limitation is specifically stated in the facility's or stationary source's plan approval(s), approved emission control plan(s), operating permit, certification(s), restricted emission status, notification(s) and applicable regulations, or in the case of *de minim is* sources, in records established and maintained at the facility pursuant to 310 CMR 7.02(2)(b).

IMPORTANT: For each pollutant where your potential emission is based on controls and/or restrictions, you MUST also update the field "maximum allowed emissions – annual" with this same value.

Emission factor

Provide this information only if you are calculating the emissions yourself, otherwise, the emission factor is provided based upon the SCC Code chosen for this emission unit and fuel combination. For a list emission factors used by eDEP see: https://www.mass.gov/guides/massdep-source-registration.

If you choose to calculate your own emissions, you must enter the emission factor that you used.

in pounds per unit (EF Units):

NEW - If you are calculating the emissions yourself, the EF units must match the chosen SCC – you must pick the unit from the drop-down menu associated with the chosen SCC. The unit selected must match the unit present in the response to B.1.e and B.2.b.

What are emission factors (EF)?

Emissions factors are the **amount of pollution generated per unit of operation**. For fuels, total tons of emissions per year are obtained by the formula [**EF in Ib/fuel unit] x** [fuel usage] / [2000 lb per ton] = tons per year (TPY) of emissions. If you allow eDEP to calculate your emissions, this field will be filled with EPA default emission factors, uncontrolled, based on the SCC. The displayed emission factor is the EPA default emission factor BEFORE the application of the ash or sulfur percent in the calculation AND BEFORE the application of the percent overall efficiency for each pollutant based on your APC devices(s).

Additional AP-42/FIRE emission factors are found in EPA's website (https://www.epa.gov/chief)

CAUTION: The emissions in Source Registration should be as accurate as possible, neither under- or overestimated. Please use engineering judgement to select the best information available for calculating your facility's emissions. The best information comes from CEMS, then from stack testing. If neither of these are available, use equipment_specific emission factors from the manufacturer (where such manufacturer's numbers represent actual performance rather than an emission limit the unit is guaranteed to meet) or_EPA factors when unit-specific data is not available. Ordinarily, permit limits should not be used to estimate actual emissions. See Appendix C for guidance on calculating your own emissions.

Calculation Method

NEW: If the system is calculating the actual and potential emissions for the pollutant, use "USEPA Emission Factor (pre-control) plus Control Efficiency"

If you are calculating the actual and potential emissions for the pollutant yourself, you can choose from the following in a dropdown list:

DESCRIPTION
Continuous Emission Monitoring System
Engineering Judgment
Manufacturer Specification
Material Balance
Other Emission Factor (pre-control) plus Control Efficiency
S/L/T Emission Factor (pre-control) plus Control Efficiency
Site-Specific Emission Factor (no Control Efficiency used)
Site-Specific Emission Factor (pre-control) plus Control Efficiency
Stack Test (no Control Efficiency used)
Stack Test (pre-control) plus Control Efficiency
Trade Group Emission Factor (no Control Efficiency used)
Trade Group Emission Factor (pre-control) plus Control Efficiency
Vendor Emission Factor (no Control Efficiency used)
Vendor Emission Factor (pre-control) plus Control Efficiency

Maximum allowed emissions (in Tons) - annual:

Maximum allowed emissions (in Tons) - short term:

Short term period (or MMBtu)

When to enter maximum allowed emissions?

Provide this information if there is a plan approval or a regulation for this fuel type (as opposed to for the emission unit as a whole).

Maximum short term emissions allowed pursuant to your permit or plan approval or regulatory restriction based on a short term period of day, hour, week, month or Million BTUS. Select the appropriate response from the drop down list

Complete the "maximum allowed emissions" fields if there is an annual or short-term emission limitation **applicable to the fuel** expressed **in either a MassDEP approval or a regulation**. Be sure to enter the approval number or regulation under "Basis" below.

NOTE: If you calculated your potential emissions using controls and/or restrictions (rather than using the eDEP's auto-calculation feature or entering max capacity uncontrolled for potential), you MUST also enter a "maximum allowed emissions – annual" and the values for potential and maximum allowed annual emissions must be the same.

Basis- DEP approval number or regulation:

This field is required if maximum allowed emissions values are present. Provide either the regulatory citation if the emission unit was installed through a permit by rule or the plan approval number. If a plan approval is not required: Cite the regulation under which the equipment was installed.

NOTE: Some emission units will not have plan approvals because:

- 4. they are below the threshold for which a plan approval or permit is required;
- 5. they were installed before the effective date of the regulation; or
- 6. they were "permitted by rule" installed in accordance with the provisions of 310 CMR 7.03: U Plan Approval Exemption.

If a plan approval established emission limits for the pollutant, write the approval number. This number is found on the letter sent by MassDEP.

If a regulation established emission limits for the pollutant, cite the regulation.

4. Ozone season emissions – May 1 through September 30:

Ozone season calculation options:

This form automatically calculates an estimate of the ozone season emissions for this emission unit using the data you provided on ozone season operation (Questions A.11a through A.11.c) and some simplifying assumptions. If you wish to report a more precise value based on your own calculations and data, check the box below the blank lines at B.4.a. and B.4.b.

a. Typical day VOC emissions – pounds per day

The system will calculate this information based on data you supplied on the form

b. Typical day NOx emissions – pounds per day

NOTE1: If you have more than one raw material/finished product/fuel for this emission unit, you will be required to complete the ozone season emissions in Section D, after you have entered the throughput and emissions data for each of your fuels in Section B.

NOTE2: In the SRGHG package, when only one raw material/finished product/fuel is present for this emission unit, this question is will be found after the GHG emissions.

Check to enter your own values

NOTE: The form will estimate the ozone season emissions for you. However, you may enter your own values by checking the boxes.

What if I have more than one fuel?

NOTE: If you have more than 1 fuel, this space for the ozone season emissions on the "parent" form is invisible – you will be provided with a space for entering ozone season emissions in Section D, after you have entered the throughput and emissions data for each of your fuels in Section B.

NOTE for Section B parent form: You must click [Error Check] now to move on to the next part of the form or to create additional Section B. Fuels and Emissions Forms and then to create Section D: Total Emissions for Emission Unit. The system will force you to make any necessary corrections. For Section B parent form, you must continue to Section C before you can error check your form.

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To continue your work on this emission unit, click on the <AQ AP1 Sec B (or D) form> you see listed under the form you were just working on.

B. GREENHOUSE GAS EMISSIONS (PARENT FORM) (IN SR/GHG PACKAGE)

This section is not present in the SR Only package.

For facilities required to report Greenhouse Gas (GHG) emissions, all emission units that burn fuel are required to report GHG emissions.

4. Total GHG emissions for this fuel only in tons per year:

Provide the following information for all pollutants emitted by the emission unit for this fuel only

CO2 CH4 N2O CO2e-CO2 CO2e-CH4 CO2e-N2O

SF6 Refrigerants-CO2e CO2e-SF6 CO2e-Refrigerants

Other GHG Pollutant CO2e- Other GHG Pollutant

CALCULATIONS: READ FIRST

The form will automatically calculate the actual emissions unless you check a box to manually enter emissions for each specific pollutant.

The form will automatically calculate the Carbon Dioxide Equivalent (CO2e) for each specific pollutant and the Total CO2e based on the actual emissions values; manual calculating of these values is not an option.

Why you may want to calculate your own emissions values?

The form will calculate emissions from your annual throughput and EPA default emission factors. To calculate your own emissions, check the box next to each pollutant's name (eDEP will calculate the emissions for any pollutant where you do not check the box).

The EPA emission factors are generic and conservative – they may overestimate your emissions. Because they are generic, the EPA emission factors are not applicable in all situations. They may overstate emissions for an emission unit. Please see Appendix C for more guidance on calculating your own emissions.

Actual (in Tons) for previous year - eDEP only:

For repeat filers: This information will be provided by the system. For new emission units: This section is not applicable.

What are "actual emissions"?

Actual emissions are an estimate of the total tons of each pollutant emitted by the emission unit during the year covered by the report (the year of record). Emissions need to be calculated for each fuel; then the sum of each pollutant's emissions is used to calculate the emission unit's total emissions. eDEP will calculate the actual emissions for each fuel, unless you have checked the box next to the pollutant. Please see Appendix C for more detailed information on calculating actual emissions.

Actual (in Tons) for year of record

Put a check in the appropriate box if you choose to calculate the emissions from this fuel yourself. Otherwise the system will calculate this information for each pollutant except for those that you put a check in the box.

NOTE: although actual emissions that are less than 0.0001 are rounded to zero, when the form is validated; All values greater than or equal to zero are used to calculate the CO2e amount for each pollutant. In the validation process, the CO2e value is calculated. Then if the *Actual (in Tons) for year of record* is less than 0.0001, this value is changed to zero

What are emission factors?

Emissions factors are the **amount of pollution generated per unit of operation**. For fuels, total tons of emissions per year are obtained by the formula [**EF in lb/fuel unit] x** [**fuel usage]** / [**2000 lb per ton**] = tons per year (**TPY) of emissions**. If you allow eDEP to calculate your emissions, this field will be filled with EPA default emission factors, uncontrolled, based on the SCC.

If you choose to calculate your own emissions, you must enter the emission factor that you used. The EPA emission factors used by eDEP can be found at: https://www.mass.gov/guides/massdep-source-registration.

Because they are generic, the EPA emission factors are not applicable in all situations. They may overstate emissions for facilities

See Appendix C for more information about using emissions factors to calculate emissions.

Emission factor (EF)

Provide this information only if you are calculating the emissions yourself, otherwise, the emission factor is provided based upon the SCC Code chosen for this emission unit and fuel combination. For a list emission factors used by eDEP see: https://www.mass.gov/guides/massdep-source-registration.

If you choose to calculate your own emissions, you must enter the emission factor that you used.

in pounds per unit (EF units):

If you are calculating the emissions yourself, the EF units must match the chosen SCC – you must pick the unit from the drop-down menu associated with the chosen SCC. The unit selected must match the unit present in the response to B.2.b.

What EF and EF units should be used to report SF6 and Refrg-CO2e emissions?

Neither SF6 nor Refrg-CO2e require a response in the fields Emission factor (EF) and in pounds per unit. These fields should auto-fill blank and be locked.

How do I use CEMs data?

If you use CEMs to determine annual emissions, report the CEMS emissions value on this form.

IMPORTANT: If you use CEMS to determine annual emissions, you must provide the CEMs equipment information in question A.15 and identify "GHG-CEMS" for Calculation Method.

Calculation Method

If the system is calculating the actual emissions for the pollutant, use GHG-EPA EF: EPA GHG Emission Factor

If you are calculating the actual emissions for the pollutant yourself, you can choose from the following in a dropdown list:

CODE	DESCRIPTION
GHG-CEMS	Continuous Emission Monitoring System Data
GHG-User EF	User Provided GHG Emission Factor
GHG-MatlBalance	Emissions Based on Material Balance
GHG-TCR EF	General Reporting Protocol EF1

NOTE: For SF6, the Calculation Method should auto-fill with GHG-MatlBalance and the field will be locked.

Specify General Reporting Protocol EF

If you select GHG-TCR EF from the Calculation Method dropdown list, then you need to select the type of Default Emission Factor from this drop down list.

CO2e for previous year

For repeat filers: This information will be provided by the system.

For new emission units: This section is not applicable.

CO2e for year of record

Using the Global Warming Potential values stored in our system, the form will automatically calculate the Carbon Dioxide Equivalent (CO2e) of each pollutant where the actual emissions value is greater than zero.

NOTE: although actual emissions that are less than 0.0001 are rounded to zero, when the form is validated; all values greater than or equal to zero are used to calculate the CO2e amount for each pollutant. In the validation process, the CO2e value is calculated. If the *Actual (in Tons) for year of record* is less than 0.0001, this value is changed to zero

Total CO2e emissions

The form will automatically calculate the Total Carbon Dioxide Equivalent (CO2e) based on the calculated CO2e of each pollutant where their actual emissions value is greater than zero.

CO2e for previous year

This information will be provided by the system. For new emission units: This section is not applicable.

CO2e for year of record

The form will automatically calculate the Total Carbon Dioxide Equivalent (CO2e) from the Carbon Dioxide Equivalent (CO2e) of each pollutant where the actual emissions value is greater than zero.

BAW Source Registration &/or Greenhouse Gas Instructions Fuel Burning Device (AP- 1) Emission Unit Form Page 70 of 230 September 2018

¹ The Climate Registry's General Reporting Protocol and emission factors are available on the TCR website (https://www.theclimateregistry.org/tools-resources/reporting-protocols/general-reporting-protocol/)

5. Ozone season emissions – May 1 through September 30:

Ozone season calculation options:

This form automatically calculates an estimate of the ozone season emissions for this emission unit using the data you provided on ozone season operation (Questions A.11a through A.11.c) and some simplifying assumptions. If you wish to report a more precise value based on your own calculations and data, check the box below the blank lines at B.5.a. and B.5.b.

a. Typical day VOC emissions – pounds per day

The system will calculate this information based on data you supplied on the form

b. Typical day NOx emissions – pounds per day

NOTE: If you have more than one raw material/finished product/fuel for this emission unit, you will be required to complete the ozone season emissions in Section D, after you have entered the throughput and emissions data for each of your fuels in Section B.

Check to enter your own values

NOTE: The form will estimate the ozone season emissions for you. However, you may enter your own values by checking the boxes.

What if I have more than one fuel?

NOTE: If you have more than 1 fuel, this space for the ozone season emissions on the "parent" form is invisible – you will be provided with a space for entering ozone season emissions in Section D, after you have entered the throughput and emissions data for each of your fuels in Section B.

C. NOTES AND ATTACHMENTS (FOUND ON PARENT FORM ONLY)

Information that will help MassDEP understand your submission. . If an attachment will 1 Notes:

be associated with this form, identify any additional, explanatory material that you are

choosing to submit

This section is to provide any additional information for any of your responses for this EU. 2. Attachments

including any child forms. If you are including a document, identify any explanatory

material the preparer is choosing to submit along with this form.

If the material can be sent electronically, check the box for the appropriate form. Check this box if additional information will be included as an attachment. If the additional material can be sent electronically (20 MB document), check the box on the appropriate form. You will be prompted just before Step 2 for the attachment.

NOTE for Section B parent form: You must click [Error Check] now to move on to the next part of the form or to create additional Section B. Fuels and Emissions Forms and then to create Section D: Total Emissions for Emission Unit. The system will force you to make any necessary corrections. For Section B parent form, you must continue to Section C before you can error check your form.

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To continue your work on this emission unit, click on the <AQ AP1 Sec B (or D) form> you see listed under the form you were just working on.

B. FUELS AND EMISSIONS (SECTION B CHILD FORM)

NOTE: In general, the information requested below will be pre-populated from MassDEP's Air Quality database. However, certain data submitted to MassDEP in a different format (i.e. CRIS) was not historically stored in Air Quality database. That data will not appear on the electronic forms until it has been submitted in this format.

With certain exceptions, which will be noted, the preparer can edit any information listed below.

Your choice of a unique name for this fuel. 1. Fuel Name / Characteristics:

DEP Fuel #: This is a unique number assigned by MassDEP that allows MassDEP to recognize this fuel

associated with this emission unit on future reports.

If this is a new Fuel, the field is blank and locked – MassDEP will assign this number.

If this is an existing Fuel, the information will be pre-populated for existing fuels associated with

this emission unit.

Can I change the DEP fuel identifier?

This ID number is a MassDEP assigned number and cannot be changed

How does eDEP handle multiple

In eDEP, a separate Section B form is automatically created for each additional fuel on record based on the "Number of fuels for this unit (previous records)". Before checking the box to make a change, please note the following:

- 1) If you need to add a new fuel and "Number of fuels for this unit...." is greater than 1, wait to see the other fuels before checking this box, or
- 2) If you ceased using this fuel and "Number of fuels for this unit...." is 1, do NOT check "delete this fuel" unless you also check "Add a new fuel"; this form requires one active fuel to function properly.

NOTE: "Add a New Fuel" and "Delete this fuel" are present in all Section B forms..

Is GHG emissions reporting required for this fuel? (for SRGHG package)

In the Fuel Burning Device (AP1) form, this field will auto-fill with a Yes response and the field will be locked. If Yes, then complete Section B.

NOTE: all fuels associated with a fuel burning device are required to report GHG emissions. The response to this field should be Yes and the field will be locked.

Delete this fuel:

Check the box if you stopped using this fuel in this emission unit. You must still report for the year of record even if amount is "0" – the fuel will be removed from the unit for the next report cycle.

NOTE: If you ceased using this fuel and "Number of fuels for this unit...." is 1, do NOT check "delete this fuel" unless you also check "Add a new fuel"; this form requires one active fuel to function properly.

NOTE: If the response to A.3.b contains a decommission date (i.e., the emission unit is decommissioned), you do not need to select "delete this fuel".

a. Source Classification Code (SCC)

The SCC is an EPA code for the type of unit operation or production process or fuel. EPA's AP-42 (https://www.epa.gov/chief) contains the codes for each type of process, as well as emission factors that can, in certain circumstances, be used to calculate emissions for each unit.

SCC Description

If the SCC is pre-populated, the SCC Description will also be pre-populated. If you added or changed the SCC, the system will automatically fill in the SCC Description when the form is validated.

How does eDEP use Source Classification Codes (SCC)?

SCCs are standard codes EPA uses to identify different operations and their associated emissions factors, if available. The SCC you select is used to supply the emission factors for the automatic emissions calculation feature included in the eDEP system. The SCC also identifies the *Units per hour* which are used for your response to B.1.e: *Maximum hourly fuel rate for all firing burners*, B.2.b: *Annual usage*, and B.3 in pounds per unit (Emission Factor Units). The list of SCC valid in eDEP can be found at: https://www.mass.gov/guides/massdep-source-registration

If the SCC listed on the form **is wrong**, enter the correct code. If the form will **not accept the SCC** you are entering, contact MassDEP at BAW.eDEP@state.ma.us.

What SCC should be used for a residential boilers/water heater at a commercial/ institutional facility?

Use the following SCC Codes if the unit: is less than 10 million Btu (MMBtu)

Residual Oil (No. 6 Oil) 10300403 Distillate Oil (No. 2 Oil) 10300503 Natural Gas 10300603

Other fuels same family of SCC Codes
Other unit sizes same family of SCC Codes

Are there any SCC Codes that should not be utilized on Fuel Burning Device (AP-1) form?

Fuel Burning Device Form (AP-1) is for combustion units and the auto calculation feature is an attribute specific to this form and relies on combustion SCCs as the basis for selecting emission factors. SCC Codes that are not for combustion units should not be used on this form, especially when using the auto calculation feature. This form will not validate non-combustion SCC Codes if the auto calculation feature is selected. Therefore, if non-combustion SCC Codes are to be used, you must calculate your own emissions.

You can identify combustion SCC from the "category" field in the "<u>List of Valid Source Classification Codes (SCCs)"</u> posted on the SR Web Page.

b. Type of fuel:

This response is determined based on the SCC. If the SCC is pre-populated, the fuel type will also be pre-populated. If you add or changed the SCC, the system will automatically fill in the fuel type when the form is validated.

NOTE: If multiple types of fuel are used in this emission unit you must check the "Add a New Fuel" check box to add additional Section B forms for each fuel used. Once you successfully validate the parent form the system will generate a blank Section B which will be found under this form as listed on the <Transaction Overview page>.

c. Sulfur content for oils and coal: (Acceptable Range 0 – 2.2)

The percentage of sulfur by weight for oil and coal, only.

TIP: This is determined by analysis of a fuel sample or can be found on the receipt from your fuel dealer.

d. Ash Content for oils and coal (Acceptable Range 0 – 10)

The percentage of ash content by weight for oil and coal, only.

TIP: This is determined by analysis of a fuel sample or can be found on the receipt from your fuel dealer.

e. Maximum hourly fuel rate for all firing burners:

The maximum fuel that all burners in this emission unit can fire in one hour, and the units of measurement from the drop-down menu (e.g., gallons per hour, tons per hour, million cubic feet per hour, etc.) is based on the chosen SCC Code.

Amount

IMPORTANT: You may need to convert the Amount so that the value is expressed for the units associated with the chosen SCC. For example, if the chosen SCC expresses the firing rate units in 1000 gallons/hr then 72 gallons/hr would be entered as 0.072 1000 gallons/hr.

Units per hour

This response is determined based on the SCC. If the SCC is pre-populated, the Units per hour will also be pre-populated. If you added or changed the SCC, the system will automatically fill in the Units per hour when the form is validated.

What is the definition of maximum hourly fuel rate for all firing burners?

The maximum rate is the rate at which the equipment **can operate**, assuming operations 24 hours a day, 7 days a week, irrespective of any regulatory restrictions.

f. Do you have fuel or usage restrictions?

These would have been expressed in a regulation, the plan approval you received from MassDEP for this emission unit or one that applies to several emission units. Check the appropriate yes or no box. If No, then skip to Question 2.

If the same restrictions also apply to other emission units, report the restrictions on those emission unit forms, as well.

Cite the most recent fuel use restriction applicable to the fuel as it is used in this emission unit. The most recent fuel use restriction may be found in a regulation, an approval that applies only to this emission unit, or one that applies to several emission units, or the facility as a whole.

What if I have multiple unit fuel restrictions and multiple approvals?

If a restriction applies to multiple units then list it here and on the forms for each other unit to which it applies.

g. DEP approval number for fuel restrictions: most recent for this fuel.

Obtain this from your plan approval letter. Cite either plan approval or regulation.

What if the restriction is mentioned in multiple approvals?

Enter the most recent approval number for the restriction.

How to record restrictions on emergency engines?

The 300 hour operating restriction for emergency engines was removed from MassDEP regulations effective March 9, 2018. The restrictions for emergency engines reported in a Source Registration will now vary between facilities.

Owners of emergency engines that have plan approvals that limit operation to 300 hours per year should continue to report that restriction on their Source Registration. Such owners may apply to MassDEP for an administrative amendment of the plan approval to remove the 300 hours limit. Owners can also choose to keep the 300 hour restriction in their permit if they so desire and continue reporting this on their Source Registration.

Those without a specific permit condition for 300 hours need to remove the restriction from their next Source Registration (question B.1.h Annual usage restriction (for this fuel)).

If a facility prefers to calculate their potential to emit for their emergency generators at less than maximum capacity uncontrolled, then they may use the following assumptions. A September 6, 1995 EPA memo (https://www.epa.gov/sites/production/files/2015-08/documents/emgen.pdf) states that "The EPA believes that 500 hours is an appropriate default assumption for estimating the number of hours that an emergency generator could be expected to operate under worst-case conditions. Alternative estimates can be made on a case-by-case basis where justified by the source owner or permitting authority (for example, if historical data on local power outages indicate that a larger or smaller number would be appropriate)." MassDEP agrees with EPA's guidance for calculating the potential to emit for an emergency engine (i.e., assume 500 hours of engine operation unless there are site-specific reasons that warrant a different estimate).

Important: Facilities whose actual emissions can fit within a 25% or 50% cap should investigate registering a cap through the new ePLACE Portal – it's easy and you can find out more here: Facility Emissions Cap

h. Annual usage restriction (amount or hours) for this fuel:

Quantity

Provide the maximum amount of fuel you are allowed to use in a year per your permit and the units of measurement from the drop down list, or the maximum amount of time you are allowed to use the unit in a year per your permit and the unit of measurement. Obtain this from your plan approval letter or regulation.

Choose the units of measurement from the drop down list. If your units are not on the drop-down menu, email BAW.eDEP@state.ma.us

If a restriction applies to multiple units then enter that same quantity here and on the forms for each unit to which it applies.

Provide the maximum amount of fuel or time you are allowed to use over the short-term period specified in your plan approval. Obtain this from your plan approval letter or regulation.

Quantity:

Choose the units of measurement from the drop down list. If your units are not on the drop-down menu, email BAW.eDEP@state.ma.us

Check the appropriate box for the time period: Month, Week, Day or Hour.

The actual amount of fuel used in this emission unit during the calendar year being reported Enter "0" if fuel not used in the year of record.

IMPORTANT - Remember you may need to convert the Amount so that the value is expressed for the units associated with the chosen SCC. For example, if the chosen SCC expresses the firing rate units in 1000 gallons then 72 gallons would be entered as 0.072 1000 gallons.

This response is determined based on the SCC. If the SCC is pre-populated, the Units will also be pre-populated. If you added or changed the SCC, the system will automatically fill in the Units when the form is validated.

Units MUST match the units specified for the SCC. If the units for your data do not match the units for the SCC, you need to convert your values to units that match the SCC or select a different SCC.

This information will be provided by the system based on your last submittal. For new emission units: This section is not applicable

TIP: Compare the annual usage from prior year of record to the current year's usage as a check. If they are orders of magnitude off, check the units.

B. SOURCE REGISTRATION EMISSIONS (SECTION B CHILD FORM)

3. Total emissions for this fuel only in tons per year:

Provide the following information for all pollutants emitted by the emission unit for this fuel only

PM10-FIL PM2.5-FIL PM-CON SO2 PB VOC NH3 CO NO₂ Specify other pollutant

BAW Source Registration &/or Greenhouse Gas Instructions Fuel Burning Device (AP- 1) Emission Unit Form Page 76 of 230 September 2018

Units

What if the restriction applies to multiple units?

i. Short term fuel usage restriction (amount or hours) for this fuel:

Units:

Per:

2. Annual usage:

a. Amount -year of record

b. Units

UNITS HELP TEXT

c. Total annual usage for prior year of record

CALCULATIONS: READ FIRST

The form will automatically calculate the actual and potential emissions unless you check a box to manually enter emissions for each specific pollutant.

The form will calculate emissions from your annual throughput, control efficiency you entered when the emission unit is equipped with air pollution control equipment and EPA default emission factors. To calculate your own emissions, check the box next to each pollutant's name (eDEP will calculate the emissions for any pollutant where you do not check the box).

Why you may want to calculate vour own emissions values?

The emissions in Source Registration should be as accurate as possible, neither under-or overestimated. Please use engineering judgement to select the best information available for calculating your facility's emissions. The best information comes from CEMS, then from stack testing. If neither of these are available, use equipment_specific emission factors from the manufacturer (where such manufacturer's numbers represent actual performance rather than an emission limit the unit is guaranteed to meet) or_EPA factors when unit-specific data is not available. Ordinarily, permit limits should not be used to estimate actual emissions. See Appendix C for guidance on calculating your own emissions.

When is NH3 emissions required?

NH3 emissions is required if APC Device is SNCR (SELECTIVE NONCATALYTIC REDUCTION) OR SCR (SELECTIVE CATALYTIC REDUCTION)

PM Filterable vs. PM Condensable

The auto-calculation feature of the Fuel Burning Device Form has always used emission factors for filterable PM10 and PM2.5. MassDEP also reports PM emissions to EPA as filterable. Therefore, if you choose (or must) calculate your own emissions, **YOU SHOULD REPORT ONLY FILTERABLE PM10 AND PM2.5**.

Do NOT add in condensable emissions. Do not use emission factors for primary PM (e.g., PM2.5-PRI) which includes both filterable and condensable emissions. EPA generally labels emission factors for filterable PM as -FIL (e.g., PM2.5-FIL) whereas primary PM emissions factors are labeled –PRI (e.g., PM2.5-PRI).

Calculate condensable emissions separately

Actual (in Tons) for previous year :

This information will be provided by the system. For new emission units: This section is not applicable.

What are "actual emissions"?

Actual emissions are an estimate of the total tons of each pollutant emitted by the emission unit during the year covered by the report (the year of record). Emissions need to be calculated for each fuel; the sum of each pollutant's emissions is used to calculate the emission unit's total emissions. eDEP will calculate the actual emissions for each fuel, unless you have checked the box next to the pollutant. Please see Appendix C for more detailed information on calculating actual emissions.

Actual (in Tons) for year of record

Put a check in the appropriate box if you choose to calculate the emissions from this fuel yourself. Otherwise the system will calculate this information for each pollutant except for those that you put a check in the box.

NOTE: In many cases AP-42 or FIRE emission factors found in EPA's website (https://www.epa.gov/chief) can be used to estimate actual emissions.

CAUTION: The emissions in Source Registration should be as accurate as possible, neither under- or overestimated. Please use engineering judgement to select the best information available for calculating your facility's emissions. The best information comes from CEMS, then from stack testing. If neither of these are available, use equipment_specific emission factors from the manufacturer (where such manufacturer's numbers represent actual performance rather than an emission limit the unit is guaranteed to meet) or_EPA factors when unit-specific data is not available. Ordinarily, permit limits should not be used to estimate actual emissions. See Appendix C for guidance on calculating your own emissions.

NOTE: For facilities that also report under 40 CFR 75: If the unit reports SO2 or NOx under 40 CFR 75 monitoring provisions, on an annual basis, then the total emissions for all fuels reported here should equal that reported under 40 CFR 75.

IMPORTANT: If your facility is subject to the reporting requirements of 40 CFR 75, see also questions A.15.d, A.15.e, and A.15.h, B.3 Actual for year of record, B.4 Ozone season emissions or D.2 Ozone season emissions for additional information.

How do I use CEMs data?

If you use CEMs to determine annual emissions, report the CEMS emissions value on this form.

IMPORTANT: If you use CEMS data for your actual emissions, you must provide the CEMs equipment information in question A.15 and identify "Continuous Emission Monitoring System (CEMs)" for Calculation Method.

How do I use Part 75 reported values?

If your large facility is subject to the annual emissions reporting *for SO2 and NO2* under EPA's regulation 40 CFR Part 75, you MUST report the SAME value here as reported to EPA through the Clean Air Markets Division.

Potential Emissions (in Tons)

Potential Emissions are the uncontrolled maximum emissions assuming the emission unit operates at maximum capacity 24 hours per day, seven days a week, 52 weeks a year (8760 hours per year).

You may apply controls and restrictions to calculation the potential emissions only under the following conditions (see 310 CMR 7.00 Definitions, potential emissions): any physical or operational limitation on the capacity of the unit to emit any air contaminant or pollutant, including air pollution control equipment and/or restrictions on hours of operation, or on the type or amount of material combusted, stored or processed, shall be treated as part of the design **only if** the limitation is specifically stated in the facility's or stationary source's plan approval(s), approved emission control plan(s), operating permit, certification(s), restricted emission status, notification(s) and applicable regulations, or in the case of *de minim is* sources, in records established and maintained at the facility pursuant to 310 CMR 7.02(2)(b).

ENTER "0" if the unit was decommissioned prior to this year of record because the unit did not represent potential emissions during the year of record.

IMPORTANT: For each pollutant where your potential emission is based on controls and/or restrictions, you MUST also update the field "maximum allowed emissions – annual" with this same value.

What are potential emissions?

The emissions resulting from the maximum operation of the equipment irrespective of any regulatory restrictions. (8760 hrs X Max Firing Rate X Emission Factor)

NEW: you may apply controls and restrictions to calculation the potential emissions only under the following conditions (see 310 CMR 7.00 Definitions, potential emissions): any physical or operational limitation on the capacity of the unit to emit any air contaminant or pollutant, including air pollution control equipment and/or restrictions on hours of operation, or on the type or amount of material combusted, stored or processed, shall be treated as part of the design **only if** the limitation is specifically stated in the facility's or stationary source's plan approval(s), approved emission control plan(s), operating permit, certification(s), restricted emission status, notification(s) and applicable regulations, or in the case of *de minim is* sources, in records established and maintained at the facility pursuant to 310 CMR 7.02(2)(b).

IMPORTANT: For each pollutant where your potential emission is based on controls and/or restrictions, you MUST also update the field "maximum allowed emissions – annual" with this same value.

Emission factor

Provide this information only if you are calculating the emissions yourself, otherwise, the emission factor is provided based upon the SCC Code chosen for this emission unit and fuel combination. For a list emission factors used by eDEP see: https://www.mass.gov/quides/massdep-source-registration.

If you choose to calculate your own emissions, you must enter the emission factor that you used.

in pounds per unit (EF Units):

NEW - If you are calculating the emissions yourself, the EF units must match the chosen SCC – you must pick the unit from the drop-down menu associated with the chosen SCC. The unit selected must match the unit present in the response to B.1.e and B.2.b.

What are emission factors (EF)?

Emissions factors are the **amount of pollution generated per unit of operation**. For fuels, total tons of emissions per year are obtained by the formula [**EF in lb/fuel unit] x** [fuel usage] / [2000 lb per ton] = tons per year (TPY) of emissions. If you allow eDEP to calculate your emissions, this field will be filled with EPA default emission factors, uncontrolled, based on the SCC. The displayed emission factor is the EPA default emission factor BEFORE the application of the ash or sulfur percent in the calculation AND BEFORE the application of the percent overall efficiency for each pollutant based on your APC devices(s).

If you choose to calculate your own emissions, you must enter the emission factor that you used. The EPA emission factors used by eDEP can be found at: https://www.mass.gov/guides/massdep-source-registration.

CAUTION: The emissions in Source Registration should be as accurate as possible, neither under- or overestimated. Please use engineering judgement to select the best information available for calculating your facility's emissions. The best information comes from CEMS, then from stack testing. If neither of these are available, use equipment_specific emission factors from the manufacturer (where such manufacturer's numbers represent actual performance rather than an emission limit the unit is guaranteed to meet) or_EPA factors when unit-specific data is not available. Ordinarily, permit limits should not be used to estimate actual emissions. See Appendix C for guidance on calculating your own emissions.

Calculation Method

NEW: If the system is calculating the actual and potential emissions for the pollutant, use "USEPA Emission Factor (pre-control) plus Control Efficiency"

If you are calculating the actual and potential emissions for the pollutant yourself, you can choose from the following in a dropdown list:

DESCRIPTION
Continuous Emission Monitoring System
Engineering Judgment
Manufacturer Specification
Material Balance
Other Emission Factor (pre-control) plus Control Efficiency
S/L/T Emission Factor (pre-control) plus Control Efficiency
Site-Specific Emission Factor (no Control Efficiency used)
Site-Specific Emission Factor (pre-control) plus Control Efficiency
Stack Test (no Control Efficiency used)
Stack Test (pre-control) plus Control Efficiency
Trade Group Emission Factor (no Control Efficiency used)
Trade Group Emission Factor (pre-control) plus Control Efficiency
Vendor Emission Factor (no Control Efficiency used)
Vendor Emission Factor (pre-control) plus Control Efficiency

Maximum allowed emissions (in Tons) - annual:

Maximum allowed emissions (in Tons) - short term:

Provide this information if there is a plan approval or a regulation for this fuel type (as opposed to for the emission unit as a whole).

Short term period (or MMBtu)

Maximum short term emissions allowed pursuant to your permit or plan approval or regulatory restriction based on a short term period of day, hour, week, month or Million BTUS. Select the appropriate response from the drop down list

When to enter maximum allowed emissions?

Complete the "maximum allowed emissions" fields if there is an annual or short-term emission limitation **applicable to the fuel** expressed **in either a MassDEP approval or a regulation**. Be sure to enter the approval number or regulation under "Basis" below.

NOTE: If you calculated your potential emissions using controls and/or restrictions (rather than using the eDEP's auto-calculation feature or entering max capacity uncontrolled for potential), you MUST also enter a "maximum allowed emissions – annual" and the values for potential and maximum allowed annual emissions must be the same.

Basis- DEP approval number or regulation:

This field is required if maximum allowed emissions values are present. Provide either the regulatory citation if the emission unit was installed through a permit by rule or the plan approval number. If a plan approval is not required: Cite the regulation under which the equipment was installed.

NOTE: Some emission units will not have plan approvals because:

- 1. they are below the threshold for which a plan approval or permit is required;
- 2. they were installed before the effective date of the regulation; or
- 3. they were "permitted by rule" installed in accordance with the provisions of 310 CMR 7.03: U Plan Approval Exemption.

If a plan approval established emission limits for the pollutant, write the approval number. This number is found on the letter sent by MassDEP.

If a regulation established emission limits for the pollutant, cite the regulation.

NOTE for Section B in SR package: You must click [Error Check] now to move on to the next part of the form or to create additional Section B. Fuels and Emissions Forms and then to create Section D: Total Emissions for Emission Unit. The system will force you to make any necessary corrections. For Section B parent form, you must continue to Section C before you can error check your form.

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To continue your work on this emission unit, click on the <AQ AP1 Sec B (or D) form> you see listed under the form you were just working on.

B. GREENHOUSE GAS EMISSIONS (IN SR/GHG PACKAGE) SECTION B CHILD FORM

This section is not present in the SR Only package. For facilities required to report Greenhouse Gas (GHG) emissions, all emission units that

For facilities required to report Greenhouse Gas (GHG) emissions, all emission units that burn fuel are required to report GHG emissions.

4. Total GHG emissions for this fuel only in tons per year:

Provide the following information for all pollutants emitted by the emission unit for this fuel only

CO2 CH4 N2O CO2e-CO2 CO2e-CH4 CO2e-N2O

SF6 Refrigerants-CO2e CO2e-SF6 CO2e-Refrigerants

Other GHG Pollutant CO2e- Other GHG Pollutant

CALCULATIONS: READ FIRST

The form will automatically calculate the actual emissions from your annual throughput and EPA default emission factors. To calculate your own emissions, check the box next to each pollutant's name (eDEP will calculate the emissions for any pollutant where you do not check the box).

The form will automatically calculate the Carbon Dioxide Equivalent (CO2e) for each specific pollutant and the Total CO2e based on the actual emissions values; manual calculating of these values is not an option.

Why you may want to calculate your own emissions values?

The GHG emissions should be as accurate as possible, neither under- or overestimated. Please use engineering judgement to select the best information available for calculating your facility's emissions. The best information comes from CEMS, then from stack testing. If neither of these are available, use equipment_specific emission factors from the manufacturer (where such manufacturer's numbers represent actual performance rather than an emission limit the unit is guaranteed to meet) or_EPA factors when unit-specific data is not available. Please see Appendix C for more guidance on calculating your own emissions

Actual (in Tons) for previous year - eDEP only:

For repeat filers: This information will be provided by the system. For new emission units: This section is not applicable.

What are "actual emissions"?

Actual emissions are an estimate of the total tons of each pollutant emitted by the emission unit during the year covered by the report (the year of record). Emissions need to be calculated for each fuel; then the sum of each pollutant's emissions is used to calculate the emission unit's total emissions. eDEP will calculate the actual emissions for each fuel, unless you have checked the box next to the pollutant. Please see Appendix C for more detailed information on calculating actual emissions.

Actual (in Tons) for year of record

Put a check in the appropriate box if you choose to calculate the emissions from this fuel yourself. Otherwise the system will calculate this information for each pollutant except for those that you put a check in the box.

NOTE: although actual emissions that are less than 0.0001 are rounded to zero, when the form is validated; All values greater than or equal to zero are used to calculate the CO2e amount for each pollutant. In the validation process, the CO2e value is calculated. Then if the *Actual (in Tons) for year of record* is less than 0.0001, this value is changed to zero



Emissions factors are the **amount of pollution generated per unit of operation**. For fuels, total tons of emissions per year are obtained by the formula [**EF in lb/fuel unit] x** [fuel usage] / [2000 lb per ton] = tons per year (**TPY**) of emissions. If you allow eDEP to calculate your emissions, this field will be filled with EPA default emission factors, uncontrolled, based on the SCC.

If you choose to calculate your own emissions, you must enter the emission factor that you used. The EPA emission factors used by eDEP can be found at: https://www.mass.gov/guides/massdep-source-registration.

Because they are generic, the EPA emission factors are not applicable in all situations. They may overstate emissions for facilities

See Appendix C for more information about using emissions factors to calculate emissions.

Emission factor (EF)

Provide this information only if you are calculating the emissions yourself, otherwise, the emission factor is provided based upon the SCC Code chosen for this emission unit and fuel combination. For a list emission factors used by eDEP see: https://www.mass.gov/quides/massdep-source-registration.

If you choose to calculate your own emissions, you must enter the emission factor that you used.

in pounds per unit (EF units):

If you are calculating the emissions yourself, the EF units must match the chosen SCC – you must pick the unit from the drop-down menu associated with the chosen SCC. The unit selected must match the unit present in the response to B.2.b.

What EF and EF units should be used to report SF6 and Refrg-CO2e emissions?

Neither SF6 nor Refrg-CO2e require a response in the fields Emission factor (EF) and in pounds per unit. These fields should auto-fill blank and be locked.

How do I use CEMs data?

If you use CEMs to determine annual emissions, report the CEMS emissions value on this form.

IMPORTANT: If you use CEMS to determine annual emissions, you must provide the CEMs equipment information in question A.15 and identify "GHG-CEMS" for Calculation Method.

Calculation Method

If the system is calculating the actual emissions for the pollutant, use GHG-EPA EF: EPA GHG Emission Factor

If you are calculating the actual emissions for the pollutant yourself, you can choose from the following in a dropdown list:

CODE	DESCRIPTION	
GHG-CEMS	Continuous Emission Monitoring System Data	
GHG-User EF	User Provided GHG Emission Factor	
GHG-MatlBalance	Emissions Based on Material Balance	
GHG-TCR EF	General Reporting Protocol EF2	

NOTE: For SF6, the Calculation Method should auto-fill with GHG-MatlBalance and the field will be locked.

Specify General Reporting Protocol EF

If you select GHG-TCR EF from the Calculation Method dropdown list, then you need to select the type of Default Emission Factor from this drop down list.

CO2e for previous year

For repeat filers: This information will be provided by the system.

For new emission units: This section is not applicable.

CO2e for year of record

Using the Global Warming Potential values stored in our system, the form will automatically calculate the Carbon Dioxide Equivalent (CO2e) of each pollutant where the actual emissions value is greater than zero.

NOTE: although actual emissions that are less than 0.0001 are rounded to zero, when the form is validated; all values greater than or equal to zero are used to calculate the CO2e amount for each pollutant. In the validation process, the CO2e value is calculated. If the *Actual (in Tons) for year of record* is less than 0.0001, this value is changed to zero

Total CO2e emissions

The form will automatically calculate the Total Carbon Dioxide Equivalent (CO2e) based on the calculated CO2e of each pollutant where their actual emissions value is greater than zero.

CO2e for previous year

This information will be provided by the system. For new emission units: This section is not applicable.

CO2e for year of record

The form will automatically calculate the Total Carbon Dioxide Equivalent (CO2e) from the Carbon Dioxide Equivalent (CO2e) of each pollutant where the actual emissions value is greater than zero.

BAW Source Registration &/or Greenhouse Gas Instructions Fuel Burning Device (AP- 1) Emission Unit Form Page 84 of 230 September 2018

² The Climate Registry's General Reporting Protocol and emission factors are available on the TCR website (https://www.theclimateregistry.org/tools-resources/reporting-protocols/general-reporting-protocol/)

NOTE for Section B child forms: You must click [Error Check] now to move on to the next part of the form or to create additional Section B. Fuels and Emissions Forms and then to create Section D: Total Emissions for Emission Unit. The system will force you to make any necessary corrections. For Section B parent form, you must continue to Section C before you can error check your form.

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To continue your work on this emission unit, click on the <AQ AP1 Sec B (or D) form> you see listed under the form you were just working on.

D. TOTAL EMISSIONS FOR EMISSION UNIT (SEPARATE CHILD FORM)

The actual, potential and, if applicable, permitted emissions from this unit for each listed air contaminant during the calendar year being reported. This form only appears if more than one Section B is present for the emission unit

NOTE: manual calculating of actual and potential emissions is not an option.

Total Emissions for this emission unit in tons per year

Calculations: This form automatically calculates this emission unit's total actual and potential emissions (if you have correctly provided all of the emissions for each fuel in each Section B). Return to Section B forms if you need to correct those numbers.

PM10 <mark>-FIL</mark>	PM2.5 <mark>-FIL</mark>	PM-CON	SO2	PB
VOC	NH3	CO	NO2	

What are total emissions for this emission unit?

This form automatically calculates the total actual and potential emissions of each pollutant from this emission unit. It calculates these values from the data you entered in Section B: Emissions for each fuel.

Please enter any emission limits that apply to the unit as a whole (regardless of fuel) under "Permitted" below.

Actual (in Tons) for previous year The actual emissions for the prior year reported

For repeat filers: This information will be provided by the system.

For new emission units: This section is not applicable.

Actual (in Tons) Emissions The actual emissions for the calendar year being reported

This information will be provided by the system and is the sum of the

emissions from each fuel (from each Section B).

Potential emissions (in Tons)

This information will be calculated by the system and is the

potential to emit from all fuels (Section Bs).

Maximum allowed emissions (in Tons) – annual

These questions only apply if this emission unit is subject to a plan approval or permit or regulation that restricts operations or emissions, regardless of fuel. If the restriction is fuel-specific, it should be entered in the appropriate fuel's Section B.

Maximum annual emissions allowed pursuant to your permit or plan approval or regulatory restriction.

NOTE: Some emission units will not have plan approvals because:

- 1. they are below the threshold for which a plan approval or permit is required;
- 2. they were installed before the effective date of the regulation; or
- they were "permitted by rule" installed in accordance with the provisions of 310 CMR 7.03: U Plan Approval Exemption.

Maximum allowed emissions (in Tons) - short term

Short term period:

Basis – DEP approval number or regulation:

Maximum short term emissions allowed pursuant to your permit or plan approval or regulatory restriction based on a short term period of day, hour, week, month or Million BTUS. Select the appropriate response from the drop down list

Provide either the plan approval or regulation establishing the emission limits for this EU as a whole.

NOTE: Some emission units will not have plan approvals because:

- 1. they are below the threshold for which a plan approval or permit is required;
- 2. they were installed before the effective date of the regulation; or
- 3. they were "permitted by rule" installed in accordance with the provisions of 310 CMR 7.03: U Plan Approval Exemption.

If a plan approval established emission limits for the pollutant associated with this EU , write the approval number. This number is found on the letter sent by MassDEP.

If a regulation established emission limits for the pollutant, cite the regulation

When do I complete the "allowable" emission fields?

Complete the "allowable" field if there is an annual or a short-term **emission limitation applicable to the emission unit as a whole** expressed in either a MassDEP approval or a regulation. Be sure to enter the approval number or regulation under "Basis".

What if a restriction applies to multiple units?

If a restriction applies to multiple units then list it here and on the forms for each other unit to which it applies. Make a note in Section C that it applies to multiple units and describe the restriction.

2. Ozone season schedule - May 1 through September 30:

Ozone season calculation options:

This form automatically calculates an estimate of the ozone season emissions for this emission unit using the data you provided on ozone season operation (Questions A.11a through A.11.c) and some simplifying assumptions. If you wish to report a more precise value based on your own calculations and data, check the box below the blank lines at D2a. and D2b.

a. Typical day VOC emissions – pounds per day

The system will calculate this information on the basis of data you supplied on the form.

b. Typical day NOx emissions – pounds per day

How do I use Part 75 reported values?

NOTE: for facilities subject to the reporting requirements of **40 CFR 75**: You **must calculate** your ozone emissions according to the following formula, and overwrite the pre-populated estimate with the result of your calculation: [Actual Ozone Season NOx emissions reported under 40 CFR 75 in tons/day] / [Actual number of days operated during the ozone season]

IMPORTANT: If your facility is subject to the reporting requirements of 40 CFR 75, see also questions A.15.d, A.15.e, and A.15.h, B.3 Actual for year of record, B.4 Ozone season emissions or D.2 Ozone season emissions for additional information.

Check to enter your own values

NOTE: The form will estimate the ozone season emissions for you. However, you may enter your own values by checking the boxes.

NOTE for Section D in SR package: You must click [Error Check] now to move on to the next form. The system will force you to make any necessary corrections

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To continue your work on this emission unit, click on the next form you see listed under the form you were just working on.

D. GHG EMISSIONS REPORTING (IN SR/GHG PACKAGE)

This section is not present in the SR Only package.

For facilities required to report Greenhouse Gas (GHG) emissions, the form automatically calculates the total actual emissions, total carbon dioxide equivalent (CO2e) for each specific pollutant and the Total CO2e based on the actual emissions values; manual calculating of these values is not an option.

3. Total GHG Emissions for this emission unit in tons per year

Calculations: This form automatically calculates this emission unit's total actual emissions (if you have correctly provided all of the emissions for each fuel in each Section B). Return to Section B forms if you need to correct those numbers.

CO2 CH4 N2O CO2e-CO2 CO2e-CH4 CO2e-N2O

SF6 Refrigerants-CO2e CO2e-SF6 CO2e-Refrigerants

What are total emissions for this emission unit?

This form automatically calculates the total actual emissions, total carbon dioxide equivalent (CO2e) for each specific pollutant and the Total CO2e from this emission unit. It calculates these values from the data you entered in Section B: Emissions for each fuel.

BAW Source Registration &/or Greenhouse Gas Instructions Fuel Burning Device (AP- 1) Emission Unit Form Page 87 of 230 September 2018

The actual emissions for the prior year reported Actual (in Tons) for previous year

For repeat filers: This information will be provided by the system.

For new emission units: This section is not applicable.

The actual emissions for the calendar year being reported Actual (in Tons) Emissions

This information will be provided by the system and is the sum of the emissions from each fuel

(from each Section B).

The actual emissions for the prior year reported CO2e for previous year (in Tons)

For repeat filers: This information will be provided by the system.

For new emission units: This section is not applicable.

The CO2e for each specific pollutant for the calendar year being reported CO2e for year of record (in Tons)

This information will be provided by the system and is the sum of the emissions from each

fuel (from each Section B).

Total CO2e emissions

CO2e for previous year This information will be provided by the system.

For new emission units: This section is not applicable.

The Total Carbon Dioxide Equivalent (CO2e) for the calendar year being reported CO2e for year of record

This information will be provided by the system and is the sum of the emissions from each

fuel (from each Section B).

NOTE for Section D in SRGHG package: You must click [Error Check] now to move on to the next form. The system will force you to make any necessary corrections

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To continue your work on this emission unit, click on the next form you see listed under the form you were just working on.

BAW AQ EMISSION UNIT -INSTRUCTIONS: PROCESS (AP-2)

PURPOSE

This form describes equipment (emission unit), processes, "fuel use" in the form of fuel, raw material or finished product, and associated air pollution emissions at the facility during the calendar year being reported from non-combustion related production processes.

NOTE: in SRGHG Package, a EU where GHG emission reporting is required but this information is not subject to SR emissions reporting; i.e. fugitive emissions from the natural gas distribution system; see GHG-ONLY form.

WHEN IS THIS FORM APPLICABLE?

This form applies to all emission units at your facility that release any air contaminants, including but not limited to the pollutants listed below, from any process EXCEPT:

- Combustion units are generally reported on a Fuel Burning Device form EXCEPT where the
 combustion is part of a process unit's function, such as an oven for curing paint on part; in such
 a case the oven is reported as a Process with the combustion fuel use and emissions reported
 as one segment (Section B) and paint curing material use and emissions reported as separate
 segment (Section B) on this Process form);
- Waste incineration (reported on the Incinerator (AP-3) form),
- GHG-Only where GHG emission reporting is required but this information is not subject to SR emissions reporting; reported as GHG-ONLY; i.e. fugitive emissions for Natural Gas Distribution System
- Insignificant activities (See definition in 310 CMR 7.00 Appendix C(5)(i).)

Source Registration reporting applies to any owner/operator of a facility if such facility meets any of the criteria in 310 CMR 7.12(1)(a)1-11

3. Has non-combustion federal potential³ to emit (facility-wide) equal to or greater than:

a. Particulate Matter
b. Oxides of Sulfur
c. Organic Material
d. Nitrogen Dioxide
two tons per year;
2.5 tons per year;
ten tons per year;
4.4 tons per year; or

e. Hazardous Air Pollutants ten tons of any individual HAP per year or

25 tons of total HAPs per year

NOTE: Once a facility is subject to 310 CMR 7.12, all emission units and processes at the facility shabe included in the Source Registration even if, individually, certain emission units and processes may not meet the applicability thresholds of 310 CMR 7.00.

HOW MANY VERSIONS OF THIS FORM ARE REQUIRED?

Submit one form for each process emission unit, including those that you have added or decommissioned since your last submittal.

An emission unit is any unit operation that releases an air contaminant. Any particular production line is a series of unit operations: activities or processes used to produce a product. A unit operation is generally a piece of equipment or a step in the production process. Identical pieces of equipment that are used interchangeably to create the same product may be reported on one form.

For example, if the facility has three different coating operations, one Process (AP-2) Form is required for each. However, two coating lines using the same equipment (including air pollution control devices) and raw materials, operated in tandem to produce the same product, can be considered one emission unit and combined on one Process (AP-2) Form.

Page 89 of 230

September 2018

³ Non-combustion potential emissions excludes emissions from motor vehicles, incinerators and products of combustion from fuel utilization facilities. BAW Source Registration &/or Greenhouse Gas Instructions
Process (AP-2) Emission Unit Form

TIP: See AP-42 (https://www.epa.gov/chief) for a list of the various operations and the air contaminants they release.

CAUTION: Once your facility has exceeded any threshold for Source Registration, you must report on all sources that release any air contaminants at your facility. No sources that release any air contaminants may be excluded from Source Registration, except those listed as "Insignificant Activities" under 310 CMR 7 Appendix C(5)(i). This includes units that are idle – you must report on all idle combustion units at the facility whenever you submit a Source Registration.

CAUTION: FOR FILERS WITH NEW PROCESS EMISSION UNIT SINCE THEIR LAST SUBMITTAL You must create a new emission unit form for any new emission unit. If you have not already created the new emission unit (when first opening your source registration package), you must either:

1) Under Transaction Overview, open the first form labeled <AQ Source Registration Package> or < AQ

- Under Section A, Q.1 check the box that indicates new equipment has been added;
- Under Transaction Overview, select <New Unit Form Creator (New Form Creator)>;
- Choose the appropriate form and enter the number of new units
- Validate the form by selecting [Error Check]
- Follow subsequent instructions

Source Registration & Greenhouse Gas Package>:

----or----

- 2) You must create a new eDEP AQ Source Registration partial package for that emission unit. Once you have submitted the package you are working on:
 - Return to "Forms", "Air & Climate",",
 - Select your package using "Start Transaction;
 - In Preform, if correction is to a prior reporting year submittal, change the reporting year using the drop down list;
 - In Overview Form, unselect Existing Facility and put a check mark by the units that you want to amend. Or if you need to add a unit, check the box under A.1 "check if you added emission units:"
 - Follow subsequent instructions pertaining to the New Unit Form Creator (New Form Creator).

IMPORTANT: Before amending your package for the current reporting year, email
BAW.eDEP@state.ma.us to confirm that your submittal has been accepted by MassDEP.

CAUTION: If you realize in the midst of completing this package that you need to create additional forms, DO NOT return to this Overview Form UNLESS you are willing to revalidate each previously validated form. Revalidation requires that you must open and revalidate every form in the package – you don't lose any of the data you have entered, but the process can be time consuming, particularly for a facility with more than 5-10 validated forms.

The best way to add emission units or stacks AFTER you have completed much of your package may be by submitting a supplemental package (Option 2 above).

CAUTION: REGARDING THE ORDER IN WHICH YOU COMPLETE YOUR FORMS

If this unit's emissions release point is a new "vertical release point" (stack). : You must create and complete a BAW AQ Stack form for the new stack prior to completing this form. The stack drop downmenu (A.13) will not contain the new stack and you will be unable to validate this form and will be forced to Save and then Exit this form You will have to return to complete it after validating the new stack for the replacement stack.

A. PROCESS DESCRIPTION

NOTE: In general the information requested below will be pre-populated from MassDEP's Air Quality database. However, certain data submitted to MassDEP in a different format (i.e. CRIS) was not historically stored in Air Quality database. That data will not appear on the electronic form until it has been submitted in this new format.

With certain exceptions, which will be noted, the preparer can edit any information listed below.

TIP: If you obtained a plan approval for the emission unit(s) you are reporting on you will have received two documents from MassDEP: 1) a plan approval letter and 2) a copy of the permit application that you submitted to MassDEP. It will be easier to fill out the Source Registration forms if you refer to those two documents.

- 1. Facility Identifiers
- a. Facility name
- b. DEP account number
- c. Facility AQ identifier -

The name and identifying numbers of the facility that you are reporting. This will be pre-populated from the information on your BAW AQ Facility Information Form.

NOTE: You cannot change your facility's name on this form. To change it you must contact your MassDEP Regional Office FMF Data Manager.

How should ovens and/or dryers be reported?

Ovens and dryers should be reported on one form only. If the oven or dryer has no emissions other than those from fuel combustion (the oven or dryer is used to drive off water and produces water vapor only), then Fuel Burning Device Form (AP-1) should be used. This will allow the auto calculation feature to be utilized, if available.

However, if other emissions are present, such as solvents that are baked off, then the oven or dryer should be reported on Process (AP-2) form.

The combustion emissions should be reported as one material throughput (segment), and the material being baked off as a separate material throughput (segment). Use a fuel combustion SCC for the fuel segment, this will allow the auto calculation feature to be utilized, if available.

IMPORTANT: If you have an oven or dryer that is currently coded to a Fuel Burning Device (AP-1) form that needs to be recoded to a Process (AP-2) form, contact the Help Desk so that they can change the forms for you prior to your continued work on this form.

DO I NEED TO REPORT NONROAD ENGINES?

The only exception is a unit used for construction equipment – that is, a generator used only to power construction equipment does not need to be reported in Source Registration. Note, however, that a temporary generator used to replace or augment an existing unit at the facility (that is, it is used to power the facility's equipment) during construction would need to be reported.

HOW SHOULD NON-STATIONARY UNITS BE REPORTED?

Where an engine is not used to power a motor vehicle but is moved around to different locations at a facility, then the engine is defined as non-stationary engine and is subject to reporting under Source Registration. This is true if: (1) the engine is at the facility and operates for more than 120 days even if it moves around at the facility (i.e., the engine runs at the facility and is not a unit that operates off-site but is just stored at the facility); (2) is not construction equipment; and (3) is a type that would be reported on if fixed (e.g., not an insignificant activity). This is due to the broad definition of "emission unit" in 7.12(3)(a). This would also apply to non-stationary units that are not engines.

How do I report emissions from fuel use of a thermal oxidizer?

If you have a thermal oxidizer on an emission unit that emits VOCs, you also need to report the emissions from the thermal oxidizer as fuel. To do this, add another segment or "raw material" (Section B) to the Process (AP-2) form for the unit to report emissions from the thermal oxidizer's fuel combustion. After you check "Add Raw Material" and validate, another Section B will be generated on which you can enter the natural gas combustion emissions. You will need to enter a fuel combustion SCC for the fuel segment, this will allow the auto calculation feature to be utilized, if available.

How is a flare reported?

When a flare is a control device for a process emission unit, is should be reported as such on the AP-2 Form for that process unit. If this unit was previously reported as an incinerator on an AP-3 form, please do the following:

- 1. report the flare on the Process (AP-2) form that it controls,
- 2. note in Section C: Notes on the Process (AP-2) form that you are reporting the flare on the Process (AP-2) form rather than the Incinerator (AP-3) form, and
- 3. enter a decommission date in the Incinerator (AP-3) form (causing it to be removed in future submittals) and enter 0 for all throughputs and emissions.

EXCEPTION: Flares at landfills should be reported on a Fuel Burning Device (AP-1) form.

2. Emission Unit Identifiers

If this is a new Emission Unit: Assign the emission unit a name/number in order to uniquely identify it.

If this is an existing Emission Unit: Assign or change the emission unit name/number in order to uniquely identify it.

a. Facility's choice of emission unit name

A unique name of your choice that will allow you to recognize this unit on future reports.

b. Facility's emission unit number / code

A unique number or code of your choice that will allow you to recognize this unit on future reports. *Example: Degreaser #1, Coater#3*

c. DEP emission unit # -

This is a unique number assigned by MassDEP that allows MassDEP to recognize the unit on future reports.

If this is a new Emission Unit, the field is blank and locked – MassDEP will assign this number. If this is an existing Emission Unit, the information will be pre-populated for existing emission units.

CAN I CHANGE THE RESPONSES TO THE EMISSION UNIT IDENTIFIER FIELDS?

eDEP allows you to change the name (2.a) and give your own number (2.b) to each emission unit. MassDEP keeps track of the units by the DEP number (2.c), and therefore you cannot change it.

d. Combined units- enter number of individual units

Total number of individual units combined on this form.

COMBINED UNIT HELP TEXT

- 1. Fuel burning units (except Incinerators) can be combined as one emission unit IF EACH INDIVIDUAL UNIT is of the same type AND uses the same fuel(s) AND is below the following thresholds: Distillate oil -- 10 MBTU per hour or 72 gal per hour; Residual oil 5 MBTU per hour or 32 gal per hour; Natural gas 10 MBTU per hour or 100 Therms per hour; Solid fuel 3 MBTU per hour; Used oil fuel -3 MBTU per hour or 19 gal per hour; Landfill gas 3 MBTU per hour or 180,000 cf per hour
- 2. Process related equipment can be combined as one emission unit IF: Similar pieces of equipment that are used interchangeably to create the same product may be reported on one form as a combined emission unit; OR Similar pieces of equipment may be combined as one emission unit IF EACH INDIVIDUAL UNIT has the same applicable requirements AND is below the following reporting thresholds: Particulate matter 2 tons per year; Organic material 10 tons per year; Lead 0.5 tons per year; Hazardous air pollutants 10 tons of any individual HAP or 25 tons of total HAPs
- 3. Incinerators can NOT be combined.

WHAT ARE COMBINED UNITS AND WHEN CAN INDIVIDUAL UNIT OPERATIONS BE REPORTED AS COMBINED UNITS? Similar pieces of equipment that are used interchangeably to create the same product may be reported on one form as a combined emission unit.

Restrictions on Combined Units Each individual unit within a combined unit must:

- 1. be of the same general type (not necessarily identical)
- 2. have the same type of air pollution controls;

NOTE: Only list one of the same type of APC devices in Question 14.

- 3. be subject to the same regulatory restrictions
- 4. individually be below the reporting thresholds in 310 CMR 7.12 (1)(a)(2) (https://www.mass.gov/regulations/310-CMR-700-air-pollution-control) shown below.

Has non-combustion federal potential to emit (facility-wide) equal to or greater than:

ContaminantThresholdParticulate Matter2 tons per yearOxides of Sulfur2.5 tons per yearOrganic Material10 tons per yearNitrogen Dioxide4.4 tons per year

Hazardous Air Pollutants 10 tons of any individual HAP

25 tons of total HAPs

NOTE: Once a facility is subject to 310 CMR 7.12, all emission units and processes at the facility shall be included in the Source Registration even if, individually, certain emission units and processes may not meet the applicability thresholds of 310 CMR 7.00.

HOW DO YOU ENTER DATA FOR COMBINED UNITS?

When entering data for combined units use these guidelines:

- Manufacturer/Model No use the most common manufacturer/model or enter "combined".
- Installation Date enter the install date for the oldest of the individual units.
- Permit Date enter the most recent permit number and date for the units.
- Max capacity / potential enter the sum of the maximum capacities of all of the individual units as the maximum capacity for the combined unit.
- Decommission date do not decommission until the last individual unit is gone; if you
 need to add or subtract units from the combined unit, then increase or decrease the value

- in the Combined Units field to reflect the change and explain in the Notes field.
- Air Pollution Controls: enter one of the controls in Question A.14. In Section C: Notes field
 identify which emission unit is associated with this specific device. Enter the remaining
 APC devices and associate it with the appropriate emission unit in Section C: Notes.
 Include: APC device type, manufacturer, model number, Facility's ID for this Device,
 installation date, pollutant(s) and percent efficiencies.
- Explain in Section C: Notes field list the units that have been combined any issues or
 oddities about the combined unit. Include the locations of the combined units if they are
 not in the same building at the facility.

NOTE: For each individual unit that has been combined on this form, enter in Section C: Notes the following information: manufacturer, model number, max input ratings-MMBtu, if applicable, installation date, APC devices, if applicable (include: APC device type, manufacturer, model number, Facility's ID for this Device, installation date, pollutant(s) and percent efficiencies), and location of units if the units are not located together

e. Is GHG emissions reporting required for this emission unit? (for SRGHG package)

This question is only present in SRGHG package; it is not present in the SR Only package. If GHG emissions' reporting is not required for this emission unit, check No. If No is checked, then only SR emissions reporting will be required for this emission unit.

NOTE: If Section B contains a fuel, then GHG emissions' reporting is **ALWAYS** required for this unit. If this unit also has multiple raw materials or finished products, a similar question is present in Section B to prevent GHG emissions reporting for any raw materials or finished products that do not have GHG emissions.

- 3. Emission unit installation and decommission dates
- Provide the requested dates in the appropriate lines. If the unit was installed many years ago and you do not know the exact date, use your best approximation.
- a. Installation dates estimate if unknown (mm/dd/yyyy)
- The date on which the unit became operational. Do not leave blank: Estimate if unknown.
- b. Decommission dates If applicable (mm/dd/yyyy)
- Complete only if the unit was shut down permanently or replaced any time before December 31st of the year of record.

ODELETE A UNIT HELP TEXT

Enter a decommission date in 3.b IF the unit is being permanently taken out of service. For fuel burning devices or Incinerators, if the equipment is not removed, MassDEP considers a unit as permanently taken out of service if the fuel lines are cut or the burner head has been removed.

HOW / WHEN TO DELETE A UNIT?

Enter a decommission date in 3.b if the unit is being **permanently taken out of service**. If the decommissioned unit operated in the year of record, the emissions from that unit must be included in this package. Therefore units "decommissioned" in this package will remain on the list of emission units for this year of record. They will NOT appear on the NEXT year of record package.

NOTE: If you decommissioned a unit prior to the year of record (and you are decommissioning it in this package) you must enter zero for the maximum hourly fuel rate, annual fuel usage, actual emissions, and potential emissions. Failing to enter zeros will cause the form to add non-zero potential emissions to the facility wide PTE on the TES.

NOTE: In cases where you have combined units, and took one (or more) out of service DO NOT enter a decommission date. Simply change the number of combined units in the combined unit's field. Do not decommission the EU unless ALL of the combined units are taken out of service.

4. Emission unit replacement

a. Is this unit replacing another emission unit?

Check the appropriate box: yes or no. If yes, then complete 4.b. Otherwise, continue on to Question 5.

b. DEP's emission unit number and facility unit name.

Choose from the drop-down menu. It is populated with the emission units you decommissioned in this and previous submittals for this year of record.

HOW TO BE SURE THE UNIT BEING REPLACED APPEARS IN THIS MENU?

Line A.4.b "DEP's emission unit number and facility's name for emission unit" is a mandatory fields when the "yes" box is checked. However the unit being replaced **will not appear as a choice** on the drop-down menu **until it is decommissioned**. You will not be able to complete and validate the AP form for a replacement unit until you have first entered a decommission date and completed and validated the AP form for the unit it is replacing. If this unit is replacing another unit that has not been "decommissioned", you must: 1) save and exit this AP-2 form, 2) open the AP-2 form for the unit being replaced, 3) enter the decommission date, and 4) complete and validate the form by selecting [Error Check] - before you can complete this AP-2 Form.

WHAT IF ONE EMISSION UNIT IS REPLACING MORE THAN ONE UNIT?

If one new emission unit is replacing several units, pick one of the units being replaced on the dropdown menu and note the others in Section C Notes and Attachments.

- 5. Equipment
- a. Type:

EPA Unit Type Code

Choose from drop-down menu.

NOTE: Use EPA Unit Type Code. The complete list of EPA Unit Type Codes can be found on the SR website: **References You Will Need**

EPA unit type code help text

Unit Type Code is a field required by US EPA for the National Emissions Inventory. Please select the most appropriate category from the drop menu. (The complete list of EPA Unit Type Code can be found on the SR website: References You Will Need.) If none are close for your unit, choose one of the "Other..." or "Unclassified" type codes and provide additional information in field A.5.a Other EPA Unit Type (describe). This field allows for 50 characters.

EPA Unit Type (describe):

This field will be locked and should be the same response that is present in the EPA Unit Type Code field, except when the EPA Unit Type Code is OTHER OR UNCLASSIFIED. When one of these responses is present in the EPA Unit Type Code field then Type field is unlocked to allow for a description of the equipment type; this field allows for 50 characters.

WHAT TO DO IF DATA UNKNOWN OR NOT AVAILABLE?

Do not leave blank: if date or numeric field – estimate; for other fields enter UNKNOWN, if unknown.

b. Manufacturer

Firm that built the unit, information can be usually found on metal nameplate on unit. Do not leave blank: enter UNKNOWN, if unknown.

Provide the requested information for the combustion unit.

c. Model number

Information can be found on metal nameplate on unit. Do not leave blank: enter UNKNOWN, if unknown.

Provide the requested information for the entire combustion unit.

d. Maximum input rating MMBtu/hr (required, if the process unit burns fuel)

NEW: A response is required if EPA Unit Type Code is a PROCESS HEATER; KILN; CALCINER; DRYER: DIRECT-FIRED OR UNKNOWN IF DIRECT OR INDIRECT OR INDIRECT-FIRED; FLARE; or OTHER COMBUSTION. Maximum rated capacity regardless of permit limitations. Information can be found on metal nameplate on unit.

Tip: The manufacturer's maximum input rating is located on a metal nameplate on the unit. It is usually expressed in Btu per hour. If the unit is not an engine and burning oil, to convert the value from gallons to Btu use the appropriate Oil Heat Values found in <u>Table C.1.3-2</u>. Identify the appropriate Heat Value BTU per gallon based on the Fuel Type and Sulfur Content % by weight found in the chart. Remember to check that the maximum input rating is in **Million Btu** per hour (MMBtu/hr).

WHAT IF THE EMISSION UNIT HAS MORE THAN ONE MASSDEP APPROVAL?

Cite the most recent plan approval that includes specific requirements applicable to this emission unit. Do not cite an approval that sets a general requirement for the facility as a whole, unless it also establishes specific conditions for this emission unit. Approvals that apply facility-wide are cited on the TES form. Similarly do not cite your most recent Air Operating Permit if you have one unless a more stringent limit is established in the operating permit for the emission unit. Usually the Air Operating Permit is a compilation of requirements included in other plan approvals or applicable regulations.

NOTE: A particular plan approval may be cited more than once in the package or on a form. For example, a plan approval that includes specific requirements for more than one emission unit will be cited on the form for each emission unit it covers. Similarly if a plan approval specifies conditions for the emission unit and for the monitor, raw material, fuel, and/or air pollution control device, it will be cited on each applicable question on the emission unit form.

6. DEP Air Quality Approvals

If a plan approval is required: Write the number for the plan approval that allowed the installation of the emission unit. This number is found on the letter sent by MassDEP that informed you that they approved the unit.

NOTE: Some emission units will not have plan approvals because:

- 1. they are below the threshold for which a plan approval or permit is required;
- 2. they were installed before the effective date of the regulation; or
- they were "permitted by rule" installed in accordance with the provisions of 310 CMR 7.03: U
 Plan Approval Exemption.
- a. Most recent approval number

Most recent plan approval or emission control plan or restricted emission status (excluding the facility's "Air Operating Permit") number applicable to this unit, from MassDEP plan approval letter.

b. DEP approval date (mm/dd/yyyy)

Date of most recent plan approval or emission control plan or restricted emission status (excluding the facility's "Air Operating Permit") applicable to this unit, from MassDEP plan approval letter listed in Question 6.a.

7. Is this unit exempt under CMR 7.02 Exemptions from Plan Approval?

Check the appropriate box.

8. If exempt from Plan Approval, indicate reason why (cite specific MassDEP AQ Regulation)

If Queston 7 is answered yes, then a response is required; if no, then skip to Question 9. Select your response from the drop down list

9. Additional reporting requirements

Check the appropriate boxes to report on the existence of any reporting requirements other than source registration for this emission unit and the frequency of that reporting.

a. Are there other routine air quality reporting requirements for this

If yes, specify reporting frequency in Question 9.b. If no, skip to Question 9.c.

BAW Source Registration &/or Greenhouse Gas Instructions Process (AP-2) Emission Unit Form Page 96 of 230 September 2018 emission unit?

b. Reporting frequency – check all that apply:

Monthly, Quarterly, Semi-annual, Annual, RES (Include Operating Permit and Plan Approval reports, but not exceedance reporting)

NESHAP, NSPS, MACT

c. Is this unit subject to -check all that apply:

10. Hours of operation for the emission unit:

Report on typical operation.

If checked, then these questions will auto-fill with the following responses:

a. Check if typically continuously operated - 24 x 7 x 52

▶ 10.b: 24▶ 10.c: 7▶ 10.d: 52

> 10.e: Q1; Q2; Q3; Q4: 25 in all four quarters

▶ 11.a: 24▶ 11.b: 7▶ 11.c: 22

b. Number of hours per day

Typical operation
Acceptable range: 0-24

c. Number of days per week

Typical operation
Acceptable range: 0-7

Actual operation

Acceptable range: 0-52

d. Number of weeks per year

e. Percent of time emission unit is operated each calendar quarter:

Actual percent of total annual operations that occurred in each season (e.g. 40% in Q1, 30% in Q2, 20% in Q3 and 10% in Q4) unit operated.

Sum of Q1+Q2=Q3+Q4 must = 100% (or 0%, if the unit was not operational for any quarter).

Q1 is January – March Q2 is April – June Q3 is July – September Q4 is October - December

11. Ozone season schedule – May 1 through September 30:

Actual operation during this period.

IMPORTANT: If you are using eDEP's auto-calculation feature to calculate your Ozone Season Emissions, these fields must be updated.

a. Ozone season hours per day

Typical operation Acceptable range: 0-24

b. Ozone seasons days per week

Typical operation Acceptable range: 0-7

c. Weeks operated in ozone season

Typical operation Acceptable range: 0-22

BAW Source Registration &/or Greenhouse Gas Instructions Process (AP-2) Emission Unit Form Page 97 of 230 September 2018 12. Emissions release point

Select the appropriate type of non-stack release point OR physical stack (release point). If Non-Stack release point, skip to Question 14.

Non-Stack Release Points: Physical Stacks:

Fugitive Horizontal vent Vertical

Gooseneck Downward facing vent Vertical with rain cap/sleeve

Vertical stack/vent less than 10ft

WHAT ARE RELEASE POINTS?

The Emission Release Point is the physical structure through which the emissions leave the facility and reach the ambient air. In eDEP, **only vertical release points are considered "stacks"** with assigned DEP and Facility stack numbers and an STACK form.

If the unit has a physical stack, you must link the unit to that stack in Question A.13.

WHAT IS THE DIFFERENCE BETWEEN STACKS AND NON-STACKS? **NOTE:** If you have installed a new stack, it will not populate the dropdown menu unless you first complete and validate a STACK Form prior to opening this form. To complete the -STACK Form, "SAVE" and "EXIT" this form. Open, complete, and validate the STACK Form of the new stack, and then return to this form.

WHAT ABOUT UNUSUAL EXHAUSTS, SUCH AS SHORT VERTICAL VENTS?

NOTE: Some units exhaust vertically, but have housings shorter than 10 ft above the roof of the building (e.g., ventilation exhausts that may be 3-5 ft tall. This type of release point does not require a Stack form – Select vertical stack/vent less than 10ft in the Non-Stack release point group.

13. Link this emission unit to a physical stack (if applicable) – pick from the list:

Facility's stack identifier (from Stack Form) – to change stack name use the Stack Form. If the stack for this unit is not listed, save and exit this form now and complete a new Stack Form **before** completing this form.

CAUTION: If this unit's emissions release point is a new stack, you must have created and completed a Stack Form for that new stack, prior to completing this form. If you do not have the stack information, you will be unable to validate this form; and will be forced to save and exit this form. Once you have created, completed, and validated the new stack form, then you may return to complete this form.

NOTE: If the emission release point in Question 12 is vertical or vertical rain cap/sleeve, then this is a required field.

14. Are there air pollution control (APC) devices on this emission unit?

Check the appropriate yes or no box. If no, skip to question 15.

How do I add a new APC?

If yes and no devices are present for this emission unit, select "Add New Control Device" button. OR if an existing device is not displayed, scroll to the end of question 14 and select "Add New Control Device" button.

When "Add New Control Device" button is selected, the form will reload with blank fields. Answer questions a through i. Once the information for the device has been added, select Update OR if you decide not to add a new device, select Cancel.

How are my existing APCs displayed?

NOTE: if the MassDEP database has active APC(s) for this emission unit, all the devices will be displayed in this section; the response will auto-fill with Yes and the field is locked. Confirm the information present for each device.

How do I revise an existing APC?

If the device information needs to be revised, select <u>Edit</u> found on the top right of the device that needs updating. Once the corrections have been made to the device, select <u>Update</u> OR if you do not to keep the corrections or decide not to make any changes, select <u>Cancel</u>.

What if my APC is used by other EUs?

NOTE: If other emission units use the same air pollution control equipment, also report this information on the appropriate forms for those units.

How to delete an air pollution control device?

Delete an air pollution control (APC) device by entering a date in Decommission Date (A.14.h) field. Use this when you are removing the device permanently.

How to replace an air pollution control device?

If the APC device was replaced in kind with a new model, enter the new installation date and replace the information on lines a-i, as necessary. Do not enter a "decommission date" - the MassDEP database tracks the change to the APC equipment automatically.

a – e. Air pollution control device

a. Type ** (Use the Drop-down Menu)

(description)

- b. Manufacturer **
- ** required fields
- c. Model Number **
- d. Facility's ID for this Device. ** (the unique number assigned by the facility for the APC equipment)
- e. Installation Date ** (mm/dd/yyyy): The date on which the unit became operational.

f - h. Air pollution control equipment dates and approval numbers:

f. MassDEP approval number (most recent)

q. MassDEP approval date (mm/dd/yyyy)

NOTE: Not all air pollution control devices require plan approvals

h. Decommission date (mm/dd/yyyy) Enter a date here only if the air pollution control device is being permanently removed and not replaced.

What to do if you don't know the date?

Provide your best approximation of the date if you do not know it. Do not leave blank.

How do I report my flare as control device?

When a flare is a control device for a process emission unit, is should be reported as such on the Process (AP-2) form for that process unit. If this unit was previously reported as an incinerator on an AP-3 form, please do the following:

- 1. report the flare on the Process (AP-2) form that it controls,
- note in Section C: Notes on the Process (AP-2) form that you are reporting the flare on the Process (AP-2) form rather than the Incinerator (AP-3) form, and
- 3. enter a decommission date in the Incinerator (AP-3) form (causing it to be removed in future submittals) and enter 0 for all throughputs and emissions.

EXCEPTION: Flares at landfills should be reported on a Fuel Burning Device (AP-1) form.

i. Percent overall efficiency – enter for all pollutants that the device was designed to control:

** - required fields

- ** The Percent Overall Efficiency calculated which equals the APC equipment's Capture Efficiency (the percentage of the emissions that reach the air pollution control unit) multiplied by the APC equipment's Control Efficiency (the percentage of the emissions that are removed from the air stream by the Air Pollution Control Equipment.)
 - If you have stack-testing data on control efficiency: Use that information.
 - If you do not have stack-testing data: Use the manufacturers suggested control efficiency. This is usually expressed as a range of percentages (e.g., 90%-97%). Use the upper end of the range.

PM10 VOC NO2 PM2.5 SO2 CO PΒ NH3 HOC HYC HG

Other: List any substances not already listed on the form that you are required to control per your plan approval, operating permit, or applicable regulation.

NOTE: Only one "Other" is available for each APC device,

What is the % overall efficiency?

The % overall efficiency for a device equals its ("% capture efficiency" X "% control efficiency"). This is critical for the automatic emissions calculations (NOTE: auto-calc function is only available for fuel burning portion of the process unit). This information can be found in the plan approval

application, MassDEP's approval for the device and/or in the manufacturer's specification for the device.

15. Is there monitoring equipment on this emission unit or its related control device?

Answer Yes or No as appropriate, If no, skip to the questions in Section B. Fuels and Emissions.

NOTE: if the MassDEP database has active monitors for this emission unit, all the equipment will be displayed in this section; the response will auto-fill with Yes and the field is locked. Confirm the information present for each device and update as needed

NOTE: Report on each monitor that is on the release point for this emission unit in the separate columns provided.

NOTE: If other emission units use the same release point, also report this information on the appropriate forms for those units.

How to delete a monitor?

Delete a monitor by entering a date in Decommission Date (A.15.h). Use this when you are removing the monitor permanently.

How to replace a monitor?

If the monitor was replaced in kind with a new model, enter the new installation date and replace the information on lines b-i as necessary. Do not enter a "decommission date"— the MassDEP database tracks the change to the monitor equipment automatically.

a. Monitor type:

Check the appropriate box for the type of monitoring device. Check only one for each monitor (use another column if there are other types of monitors on the release point.)

- CEMS
- Opacity
- Fuel flow meter
- Time recorder
- Temperature recorder
- Pressure
- Other: If other is checked then Describe "other" is required

How do I use CEM data?

If you use CEMs to determine annual emissions, report the CEMS emissions value in <u>Section B.3 Emissions</u> on this form. For each pollutant where the Calculation Method in <u>Section B.3 Emissions</u> is identified as CEMS, then that pollutant also needs to be identified as a montored pollutant in Question A.15.I

b. Manufacturer:

The name of the manufacturer of the monitoring equipment attached to the stack and the model number assigned by the manufacturer.

c. Model number:d. Monitor ID #:

The unique ID number/name that the facility has assigned to this piece of monitoring equipment.

e. Installation date:

The date on which the unit became operational. Do not leave blank. Estimate if unknown.

f. DEP approval #:

MassDEP approval number (most recent) from your permit or plan approval.

g. DEP approval date: (mm/dd/yyyy)

(mm/dd/yyyy)

h. Decommission date:

Enter a date here only if the monitor is being permanently removed and not just replaced. (mm/dd/yyyy)

Whether or not this device are attached to the monitor.

i. Recorder?

Yes or No check box

Yes or No check box

j. Audible alarm?

BAW Source Registration &/or Greenhouse Gas Instructions Process (AP-2) Emission Unit Form Page 100 of 230 September 2018 k. Data System?

Whether or not a data system that continuously logs monitoring data for future review is attached

to the monitor.
Yes or No check box

What is a "data system"?

A data system continuously captures monitoring data for future review and analysis.

I. Monitored pollutants:

Check all contaminants that are measured by the monitoring unit

PM10 PM2.5 SO2 CO VOC NO2 NH3
Mercury Oxygen CO2 H2S HCL Opacity CH4

NO2 SF6 Refrigerants-CO2e

Other: List any substances not already listed on the form that you are required to monitor per your

plan approval, operating permit, or applicable regulation. **NOTE**: Only one "Other" is available for each monitor.

B. FUELS AND EMISSIONS FOR RAW MATERIALS / FINISHED PRODUCTS/ FUELS (SECTION B PARENT FORM)

NOTE: In general, the information requested below will be pre-populated from MassDEP's Air Quality database. However, certain data submitted to MassDEP in a different format (i.e. CRIS) was not historically stored in the Air Quality database. That data will not appear on the electronic forms until it has been submitted in this new format.

With certain exceptions, which will be noted, the preparer can edit any information listed below.

NOTE: Section B of this form must be completed for each raw material, finished product or fuel that can emit air contaminants used in this emission unit.

Special rules for organic compounds

If an organic compound is used in an emission unit:	Submit:	
To manufacture another chemical or to make a formulation	One Section B for each individual organic compound used in this emission unit.	
As a formulation (e.g., to paint,	One Section B is required for EACH FORMULATION	
print, or otherwise coat a product)	used in this emission unit.	
As a solvent thinner or to clean the	One Section B is required for each separate solvent	
formulation from the processing	thinner used in this emission unit. (NOTE this	
equipment	information used to be reported with a formulation)	
For degreasing	One Section B is required for EACH degreasing	
	formulation used in the emission unit.	

CAUTION: If the same raw material is used or product is produced in more than one emission unit, and you were unable to combine them on one Process (AP-2) form, then this material/product needs to be reported on the individual emission unit's Process (AP-2) forms.

How does eDEP handle multiple raw materials or finished products?

In eDEP, a separate Section B form is automatically created for each raw material or finished product on record for this emission unit based on the "Number of fuels for this unit (previous records)". Before checking the box at the right to make a change, please note the following:

1) If you need to add a new raw material or finished product or fuel and "Number of fuels for this unit...." is greater than 1, wait to see the other fuels before checking this box, or

2) If you ceased using or making a specific raw material or finished product or fuel and "Number of fuels for this unit...." is 1, do NOT check "delete this fuel" unless you also check "Add a new fuel"; this form requires one active fuel to function properly.

NOTE: If the response to A.3.b contains a decommission date (i.e., the emission unit is decommissioned), you do not need to select "delete this fuel".

BAW Source Registration &/or Greenhouse Gas Instructions Process (AP-2) Emission Unit Form Page 101 of 230 September 2018

Add a New material/product/fuel

Check the box if you need to add a material/product/fuel that you did not report on previously (eDEP will add a blank Section B form to your package when you validate this form). Any additional material/product/fuels will automatically appear when you error check this form so you do NOT need to check this field to make additional forms appear if they have been reported on in a previous submittal. You can see the number of fuels already existing for this unit in the field: "Number of fuels for this unit (previous records)". Use this check box only for NEW material/product/fuel for this unit which you have never reported before.

Number of Additional Fuels:

Enter the number of new fuels you need to add for this emission unit.

WHEN TO NOT CHECK "ADD A NEW FUEL" BOX

Any additional fuels will automatically appear when you error check this form so you do not need to check this field to make additional fuels appear if they have been reported on already in a previous submittal. You can see the number of fuels already existing for this unit in the field: "Number of fuels for this unit (previous records)". This check box is only for NEW fuels which you have never reported before.

Delete this material/product/fuel:

Check the box if you stopped using this material or fuel or making this product in this emission unit permanently. You must still report data for this year of record even if amount is "0" – the material/product/fuel will be removed in the next report cycle. **NOTE**: If you ceased using this material/product/fuel and "Number of fuels for this unit...." is 1, do NOT check "delete this fuel" unless you also check "Add a new fuel"; this form requires one active material/product/fuel to function properly.

1. Operation Description

Is GHG emissions reporting required for this raw material, finished product or fuel? (in SRGHG package)

This question is only present in SRGHG package. If GHG emissions' reporting is not required for this raw material or finished product, check No. Only SR emissions reporting will be required for this Section B. **NOTE**: If fuel, GHG emissions' reporting is always required.

a. Raw material, finished product, or fuel name:

This response is determined based on the SCC. If the SCC is pre-populated, the Raw material, finished product, or fuel name will also be pre-populated. If you added or changed the SCC, the system will automatically fill in the Raw material, finished product, or fuel name when the form is validated. If this response is not a fuel, you can revise the response by selecting from the drop down list.

EPA material type code help text

Material Type Code is a field required by US EPA for the National Emissions Inventory. In most cases, your SCC response will autofill this field but if the response is not appropriate, you can change the response by selecting from this list. (The complete list of EPA Material Type Codes can be found on the SR website: References You Will Need.)

Number of segments for this unit (previous records):

This field identifies the number of existing segments that are associated with this EU.

This information will be provided by the system. For new emission units: This question is not applicable.

Is this fuel, waste, or raw material/finished product an input, output or fuel?

Check the appropriate box: input, output or fuel.

NOTE1: when the response to A.5 EPA Unit Type Code is a PROCESS HEATER; KILN; CALCINER; DRYER: DIRECT-FIRED OR UNKNOWN IF DIRECT OR INDIRECT OR INDIRECT-FIRED; FLARE; or OTHER COMBUSTION, then a Fuel response is required for one Section B.

NOTE2: Raw Material would be considered an **Input**; finished product would be considered an **Output**, and the "material" used in a fuel burning device would be considered **Fuel**. However,

BAW Source Registration &/or Greenhouse Gas Instructions Process (AP-2) Emission Unit Form Page 102 of 230 September 2018 if you use a "fuel" as part of your process operation (and not associated with combustion equipment), this "fuel" would be considered an **Input** or if the "fuel" is being stored and you are required to report breathing loss and/or transfer loss, then this "fuel" would be considered an **Output**.

For example: Using a coating line with natural gas dryers, depending on how you reported the coating operation, the coating(s) used (i.e. ink, paint, dye) would be considered an **Input** and the material that is coated (i.e. fabric, metal parts, cardboard, etc.) would be considered an **Output.** The natural gas used by the dryer would be considered a **Fuel**.

NOTE3: If this information is inaccurate, please contact us at BAW.eDEP@state.ma.us

DEP#

NOTE: The DEP number given here cannot be edited. It corresponds to the old SSEIS segment number and is how MassDEP tracks the raw material/product for this emission unit.

Can I change the DEP fuel identifier?

This ID number is a MassDEP assigned number and cannot be changed

c. Process description:

Write a brief description of the process in which the raw material is used or finished product is created or fuel is burned. (e.g., Cleaning – degreasing)

d. Source Classification Code (SCC)

The SCC is a code for the type of unit operation or production process. EPA's AP-42 (https://www.epa.gov/chief) contains the codes for each type of process, as well as, emission factors that can, in certain circumstances, be used to calculate emissions from each unit process.

SCC Description

The system will automatically fill in the code description.

If the SCC is pre-populated, the SCC Description will also be pre-populated. If you add or changed the SCC, the system will automatically fill in the SCC Description when the form is validated.

What SCC should be used to report SF6 emissions? (for SR/GHG package)

Use the following SCC Codes:

- 31306502: Industrial Processes Electrical Equipment Semiconductor Manufacturing -Cleaning Process: Plasma Process: Specify Gas Used
- 31306510: Industrial Processes Electrical Equipment Semiconductor Manufacturing Chemical Vapor Deposition: General: Specify Gas Used
- 31306520: Industrial Processes Electrical Equipment Semiconductor Manufacturing -Diffusion Process: Deposition Operation: Specify Gas Used
- 31306531: Industrial Processes Electrical Equipment Semiconductor Manufacturing -Etching Process: Plasma/Reactive Ion: Specify Gas Used

How does eDEP use Source Classification Codes (SCC)?

SCCs are standard codes EPA uses to identify different operations and the associated emissions factors, if available. The SCC identified the raw material/finished product name or fuel type. The SCC also identifies the *Units per hour* which are used for your response to B.1.e: *Maximum hourly* process rate for material/product/fuel, B.1.g: Total actual raw material, finished product or fuel for year of record: *and the B.3 Emission Factor Units*. The list of SCC valid in eDEP can be found at https://www.mass.gov/guides/massdep-source-registration

If the SCC listed on the form **is wrong**, enter the correct code. If the form will **not accept the SCC** you are entering, contact MassDEP at BAW.eDEP@state.ma.us.

e. Maximum process rate for material/product:

The maximum rate at which raw materials/finished products/fuels can be used in the emission unit, expressed in measurable units (e.g., pounds of material per hour or gallons per hour), is based on

BAW Source Registration &/or Greenhouse Gas Instructions Process (AP-2) Emission Unit Form Page 103 of 230 September 2018 the chosen SCC Code

Amount

HYC

IMPORTANT: You may need to convert the Amount so that the value is expressed for the units associated with the chosen SCC. For example, if the chosen SCC expresses the firing rate units in 1000 gallons/hr then 72 gallons/hr would be entered as 0.072 1000 gallons/hr when you select an SCC code for liquid material depending on the SCC units.

Units per hour

This response is determined based on the SCC. If the SCC is pre-populated, the Units per hour will also be pre-populated. If you added or changed the SCC, the system will automatically fill in the Units per hour when the form is validated.

What is the definition of maximum process rate?

The maximum rate is the rate at which the equipment **can operate**, assuming operations 24 hours a day, 7 days a week, irrespective of any regulatory restrictions.

f. If organic material, give weight % of: VOC, HOC, HYC

Determine the weight percentage separately for each category of organic compound. The MSDS provided by your supplier will list the individual chemicals in the formulation.

Total **weight** percentage of:

of: VOC, HOC, HYC VOC, HOC,

Volatile Organic Compounds (VOCs) in the formulation Halogenated Organic Compounds (HOCs) in the formulation Hydrocarbons (HYCs) in the formulation

Calculate the weight percentage for each category by summing the weight percent of each individual chemical in the formulation that is in each category.

TIP: The MSDS provided by your supplier will list the individual chemicals in the formulation.

What is the weight percentage of VOC, HOC, HYC?

NOTE: Some formulations will contain a mixture of VOCs, HOCs, and/or HYCs. Others will just contain one of the categories.

Do not confuse WEIGHT percentage with VOLUME percentage. WEIGHT percentage is calculated as follows: 100 X (The weight of the HOCs, VOCs or HYCs in the formulation) / (the total weight of the formulation).

and If fuel is an oil, give percent by weight of Sulfur content (Acceptable Range 0 – 2.2)

NEW: The percentage of sulfur by weight for oil, only.

TIP: This is determined by analysis of a fuel sample or can be found on the receipt from your fuel dealer.

g. Total actual raw material used or finished product produced for year of record:

Amount

How much of the raw material was used or product was produced or fuel burned during the calendar year being reported and the unit of measure used. Enter "0" if not used/produced/burned in the year of record.

Units

This response is determined based on the SCC. If the SCC is pre-populated, the Units will also be pre-populated. If you added or changed the SCC, the system will automatically fill in the Units when the form is validated.

Amount Prior year Units prior year

This information will be provided by the system based on your last submittal. For new emission units: This information is not applicable.

BAW Source Registration &/or Greenhouse Gas Instructions Process (AP-2) Emission Unit Form Page 104 of 230 September 2018 h. Do you have raw material or finished product or fuel restrictions?

These would have been expressed in a regulation, the plan approval you received from MassDEP for this emission unit or one that applies to several emission units. Check the appropriate yes or no box. If No, then skip to Question B.1.I.

NOTE: Some emission units will not have plan approvals because:

- 1. they are below the threshold for which a plan approval or permit is required;
- 2. they were installed before the effective date of the regulation; or
- 3. they were "permitted by rule" installed in accordance with the provisions of 310 CMR 7.03: U Plan Approval Exemption.

What if there are multiple raw material or finished product or fuel restrictions?

If the same restrictions also apply to other emission units, report the restrictions on those emission unit forms, as well. Cite the most recent raw material use or finished product restriction applicable to the raw material use or finished product associated with this emission unit. The most recent raw material or finished product restriction may be found in a regulation, an approval that applies only to this emission unit, or one that applies to several emission units, or the facility as a whole.

What if a restriction applies to multiple units?

If a restriction applies to multiple units then list it here and on the forms for each other unit to which it applies. Enter the most recent approval number for the restriction.

i. DEP approval number for restrictions:

Only complete if a plan approval is required: State the approval number for the plan approval that allowed the installation of the emission unit. This number is found on the plan approval letter sent by MassDEP. Cite either plan approval or regulation.

 j. Short term raw material/finished product/fuel restriction
 — if none, leave blank:

Quantity(amount or hours):

Provide the maximum amount of raw material/finished product, you are allowed to use over the short-term period specified in your plan approval. Obtain this from your plan approval letter or regulation..

Units:

Choose the units of measurement from the drop down list. If your units are not on the drop-down menu, email BAW.eDEP@state.ma.us

Per:

Check the appropriate box for the time period: Month, Week, Day or Hour.

k. Annual material/finished product or fuel restriction – if none, leave blank:

Quantity (amount or hours):

Provide the maximum amount of raw material/finished product, you are allowed to use in a year per your permit, and the units of measurement from the drop-down menu. Obtain this from your plan approval letter or regulation

Units:

If your units are not on the drop-down menu, email BAW.eDEP@state.ma.us.

I. Indicate which air pollution control devices from Section A, Question 14 control this material/product/fuel by listing the facility-designated control device ID # for each unit that applies:

Select the ID for the APC Device from the drop-down menu that is use to control this specific material/product/fuel.

IMPORTANT Do not select the same control more than once.

NOTE: if three controls are listed in A.14 and only one of these controls apply to this material/product/fuel, select this control here.

Check here if ALL air pollution BAW Source Registration &/or Greenhouse Gas Instructions Process (AP-2) Emission Unit Form Page 105 of 230 September 2018 control devices on the unit apply to this material/product/fuel

Use the check box if all air pollution control devices on the unit apply to this material/product/fuel.

What to do if your new control device does not show up in the drop-down menu?

Validate the form by selecting [Error Check].

If you have added or amended the air pollution control device(s) associated with this raw material/finished product/fuel, you must first validate the form to populate the drop-down menu with the new control device.

Once you have successfully validated the form, the added or amended air pollution control device(s) will be in the drop-down menu.

B. SOURCE REGISTRATION EMISSIONS (SECTION B PARENT FORM)

2. Total emissions for this raw material/product – tons per year:

Provide the following information for all pollutants emitted by the emission unit.

What are total emissions for this material/finished product?

This section records the total actual, unrestricted potential and permitted (allowable) emissions for the year covered by this report (the year of record) of each pollutant that is attributed to this raw material or finished product for the emission unit(s) reported on this AP-2. Please see the Appendix C for detailed information on calculating emissions.

PM10<mark>-FIL PM2.5-FIL PM-CON</mark> SO2 PE VOC NH3 CO NO2

Specify other pollutant

Calculations: Read First

The emissions in Source Registration should be as accurate as possible, neither under- or overestimated. Please use engineering judgement to select the best information available for calculating your facility's emissions. The best information comes from CEMS, then from stack testing. If neither of these are available, use equipment_specific emission factors from the manufacturer (where such manufacturer's numbers represent actual performance rather than an emission limit the unit is guaranteed to meet) or_EPA factors when unit-specific data is not available. Ordinarily, permit limits should not be used to estimate actual emissions. See <a href="AppendixCommonstyle-permit-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-should-index-s

When is NH3 emissions required?

NH3 emissions is required if APC Device is SNCR (SELECTIVE NONCATALYTIC REDUCTION) OR SCR (SELECTIVE CATALYTIC REDUCTION)

PM FILTERABLE VS. PM CONDENSABLE

MassDEP reports PM emissions to EPA as filterable. Therefore, if you calculate your own emissions, YOU SHOULD REPORT ONLY FILTERABLE PM10 AND PM2.5.

Do NOT add in condensable emissions. Do not use emission factors for primary PM (e.g., PM2.5-PRI) which includes both filterable and condensable emissions. EPA generally labels emission factors for filterable PM as -FIL (e.g., PM2.5-FIL) whereas primary PM emissions factors are labeled –PRI (e.g., PM2.5-PRI).

Calculate condensable emissions separately

Actual for previous year

This information will be provided by the system. For a new emission unit: This information is not applicable.

What are "actual emissions"?

Actual emissions are an estimate of the total tons of each pollutant emitted by the emission unit associated with each raw material/finished product/fuel during the year covered by the report (the year of record). For Process (AP-2) forms, eDEP will not auto-calculate the actual emissions.

Please see Appendix C for more detailed information on calculating actual emissions.

Actual for year of record:

Calculate this information. The actual emissions for the calendar year being reported. **You must calculate your Actual Emissions**. (see <u>Appendix C</u>: Example Calculations.)

NOTE: In many cases, AP-42/FIRE emission factors found in EPA's website (https://www.epa.gov/chief) can be used to estimate actual emissions.

CAUTION: The emissions in Source Registration should be as accurate as possible, neither under- or overestimated. Please use engineering judgement to select the best information available for calculating your facility's emissions. The best information comes from CEMS, then from stack testing. If neither of these are available, use equipment_specific emission factors from the manufacturer (where such manufacturer's numbers represent actual performance rather than an emission limit the unit is guaranteed to meet) or_EPA factors when unit-specific data is not available. Ordinarily, permit limits should not be used to estimate actual emissions. See <a href="AppendixCondition-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-point-registed-limits-registed-limits-registed-limits-registed-limits-point-registed-limits-point-registed-limits-registed-limits-point-registed-limits-registed-limits-registed-limits-registed-limits-registed-limits-registed-limits-registed-limits-registed-limits-registed-limits-registed-limits-registed-limits-registed-li

How do I use CEMs data?

If you use CEMs to determine annual emissions, report the CEMS emissions value on this form.

IMPORTANT: If you use CEMS data for your actual emissions, you must provide the CEMs equipment information in question A.15 and identify "Continuous Emission Monitoring System (CEMs)" for Calculation Method.

Potential Emissions (in Tons)

Calculate this information. (See <u>Appendix C: Example Calculations</u>.)

The definition of Potential Emissions in 310 CMR 7.00 takes into account the restrictions of a plan source's plan approval(s), approved emission control plan(s), operating permit, certification(s), restricted emission status, notification(s) and applicable regulations. If you have a restriction that meets one of these conditions for this emission unit AND raw material/finished product/fuel, you may list that pollutant's potential emissions number here AND in the next section. However, if this emission unit AND raw material/finished product/fuel does not have a restriction, the number entered here should be based on maximum uncontrolled emissions

Potential emissions are the maximum uncontrolled emissions assuming the emission unit operates at maximum capacity 24 hours per day, 7 days a week, 52 weeks a year (8760 hours per year)..

You may apply controls and restrictions to calculation the potential emissions only under the following conditions (see 310 CMR 7.00 Definitions, potential emissions): any physical or operational limitation on the capacity of the unit to emit any air contaminant or pollutant, including air pollution control equipment and/or restrictions on hours of operation, or on the type or amount of material combusted, stored or processed, shall be treated as part of the design **only if** the limitation is specifically stated in the facility's or stationary source's plan approval(s), approved emission control plan(s), operating permit, certification(s), restricted emission status, notification(s) and applicable regulations, or in the case of de minim is sources, in records established and maintained at the facility pursuant to 310 CMR 7.02(2)(b).

ENTER "0" if the unit was decommissioned prior to this year of record because the unit did not represent potential emissions during the year of record.

IMPORTANT: For each pollutant where your potential emission is based on controls and/or restrictions, you MUST also update the field "maximum allowed emissions – annual" with this same value.

What are potential emissions?

The emissions resulting from the maximum operation of the equipment irrespective of any regulatory restrictions. (8760 hrs X Max Firing Rate X Emission Factor)

NEW: you may apply controls and restrictions to calculation the potential emissions only under the following conditions (see 310 CMR 7.00 Definitions, potential emissions): any physical or operational limitation on the capacity of the unit to emit any air contaminant or pollutant, including air pollution control equipment and/or restrictions on hours of operation, or on the type or amount of material combusted, stored or processed, shall be treated as part of the design **only if** the limitation is specifically stated in the facility's or stationary source's plan approval(s), approved emission control plan(s), operating permit, certification(s), restricted emission status, notification(s) and applicable regulations, or in the case of *de minim is* sources, in records established and maintained at the facility pursuant to 310 CMR 7.02(2)(b).

IMPORTANT: For each pollutant where your potential emission is based on controls and/or restrictions, you MUST also update the field "maximum allowed emissions – annual" with this same value.

Emission factor:

Provide this information.

NOTE: In many cases, AP-42/FIRE emission factors found in EPA's website (https://www.epa.gov/chief) can be used to estimate actual emissions.

in pounds per unit (EF Units):

NEW - If you are calculating the emissions yourself, the Emission factor units must match the chosen SCC. The unit selected must match the unit present in the response to B.1.e and B.1.g.

What are emission factors (EF)?

Emissions factors are the **amount of pollution generated per unit of operation**, uncontrolled based on the SCC. For example, for coating operations, the emission factor is often expressed as lb emitted per gallon of coating applied. Therefore, total tons of emissions per year are obtained by the formula [EF in lb/ raw material] x [raw material/finished product/fuel usage] / [2000 lb per ton] = TPY of emissions.

When you calculate your own emissions, you must enter the emission factor that you used. The EPA emission factors used by eDEP can be found at: https://www.mass.gov/guides/massdep-source-registration.

CAUTION: The emissions in Source Registration should be as accurate as possible, neither under- or overestimated. Please use engineering judgement to select the best information available for calculating your facility's emissions. The best information comes from CEMS, then from stack testing. If neither of these are available, use equipment_specific emission factors from the manufacturer (where such manufacturer's numbers represent actual performance rather than an emission limit the unit is guaranteed to meet) or_EPA factors when unit-specific data is not available. Ordinarily, permit limits should not be used to estimate actual emissions. See Appendix C for guidance on calculating your own emissions.

Appendix C provides more information about using emissions factors to calculate emissions.

Calculation Method

NEW: If the system is calculating the actual and potential emissions for the pollutant, use "USEPA Emission Factor (pre-control) plus Control Efficiency"

If you are calculating the actual and potential emissions for the pollutant yourself, you can choose from the following in a dropdown list:

DESCRIPTION
Continuous Emission Monitoring System
Engineering Judgment
Manufacturer Specification
Material Balance
Other Emission Factor (pre-control) plus Control Efficiency
S/L/T Emission Factor (pre-control) plus Control Efficiency
Site-Specific Emission Factor (no Control Efficiency used)
Site-Specific Emission Factor (pre-control) plus Control Efficiency
Stack Test (no Control Efficiency used)
Stack Test (pre-control) plus Control Efficiency
Trade Group Emission Factor (no Control Efficiency used)
Trade Group Emission Factor (pre-control) plus Control Efficiency
Vendor Emission Factor (no Control Efficiency used)
Vendor Emission Factor (pre-control) plus Control Efficiency

Maximum allowed emissions – annual:

Provide this information if there is a plan approval or a regulation for this raw material /product (as opposed to for the emission unit as a whole.)

Maximum allowed emissions - short term:

Short term period

Maximum short term emissions allowed pursuant to your permit or plan approval or regulatory restriction based on a short term period of day, hour, week, month or Million BTUS. Select the appropriate response from the drop down list

When to enter maximum allowed emissions?

Complete the "maximum allowed emissions" fields if there is an annual or short-term emission limitation applicable to the raw material/finished product/fuel expressed in either a MassDEP approval or a regulation. Be sure to enter the approval number or regulation under "Basis" below.

NOTE: If you calculated your potential emissions using controls and/or restrictions (rather than using the eDEP calculation feature or entering max capacity uncontrolled for potential), you MUST also enter a "maximum allowed emissions – annual" and the values for potential and maximum allowed annual emissions must be the same.

Basis- DEP approval number or regulation:

This field is required if maximum allowed emissions values are present. Provide either the regulatory citation if the emission unit was installed through a permit by rule or the plan approval number. If a plan approval is not required: Cite the regulation under which the equipment was installed.

NOTE: Some emission units will not have plan approvals because:

- 1. they are below the threshold for which a plan approval or permit is required;
- 2. they were installed before the effective date of the regulation; or
- 3. they were "permitted by rule" installed in accordance with the provisions of 310 CMR 7.03: U Plan Approval Exemption.

BAW Source Registration &/or Greenhouse Gas Instructions Process (AP-2) Emission Unit Form Page 109 of 230 September 2018 If a plan approval established emission limits for the pollutant, write the approval number t. This number is found on the letter sent by MassDEP.

If a regulation established emission limits for the pollutant, cite the regulation.

4. Ozone season emissions – May 1 through September 30:

Ozone season calculation options:

This form automatically calculates an estimate of the ozone season emissions for this emission unit using the data you provided on ozone season operation (Questions A.11a through A.11.c) and some simplifying assumptions. If you wish to report a more precise value based on your own calculations and data, check the box below the blank lines at B.3.a. and B.3.b.

a. Typical day VOC emissions – pounds per day

The system will calculate this information based on data you supplied on the form

b. Typical day NOx emissions – pounds per day

NOTE1: If you have more than one raw material/finished product/fuel for this emission unit, you will be required to complete the ozone season emissions in Section D, after you have entered the throughput and emissions data for each of your material/ product/fuel in Section B.

NOTE2: In the SRGHG package, when only one raw material/finished product/fuel is present for this emission unit, this guestion is will be found after the GHG emissions.

Check to enter your own values

NOTE: The form will estimate the ozone season emissions for you. However, you may enter your own values by checking the boxes

What if I have more than one raw material/finished product/fuel?

NOTE: If you have more than 1 raw material/finished product/fuel, this space for the ozone season emissions on the "parent" form is invisible – you will be provided with a space for entering ozone season emissions in Section D, after you have entered the throughput and emissions data for each of your raw materials/finished products/fuels for this unit.

NOTE for Section B parent form: You must click [Error Check] now to move on to the next part of the form or to create additional Section B. Fuels and Emissions Forms and then to create Section D: Total Emissions for Emission Unit. The system will force you to make any necessary corrections. For Section B parent form, you must continue to Section C before you can error check your form.

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To continue your work on this emission unit, click on the <AQ AP1 Sec B (or D) form> you see listed under the form you were just working on.

B. GREENHOUSE GAS EMISSIONS (IN SR/GHG PACKAGE) (SECTION B PARENT FORM)

This section is not present in the SR Only package.

For facilities required to report Greenhouse Gas (GHG) emissions, all emission units that burn fuel are required to report GHG emissions.

3. Total GHG emissions for this fuel only in tons per year:

Provide the following information for all pollutants emitted by the emission unit for this material/product/fuel only

CO2 CH4 N2O SF6 Refrigerants-CO2e CO2e-CO2 CO2e-CH4 CO2e-N2O CO2e-SF6 CO2e-Refrigerants

Other GHG Pollutant CO2e- Other GHG Pollutant

CALCULATIONS: READ FIRST

The form will automatically calculate the actual emissions from your annual throughput and EPA default emission factors. To calculate your own emissions, check the box next to each pollutant's name (eDEP will calculate the emissions for any pollutant where you do not check the box).

The form will automatically calculate the Carbon Dioxide Equivalent (CO2e) for each specific pollutant and the Total CO2e based on the actual emissions values; manual calculating of these values is not an option.

Why you may want to calculate your own emissions values?

The GHG emissions should be as accurate as possible, neither under- or overestimated. Please use engineering judgement to select the best information available for calculating your facility's emissions. The best information comes from CEMS, then from stack testing. If neither of these are available, use equipment_specific emission factors from the manufacturer (where such manufacturer's numbers represent actual performance rather than an emission limit the unit is guaranteed to meet) or EPA factors when unit-specific data is not available. Please see Appendix C for more guidance on calculating your own emissions

Actual (in Tons) for previous year:

This information will be provided by the system. For new emission units: This section is not applicable.

What are "actual emissions"?

Actual emissions are an estimate of the total tons of each pollutant emitted by the emission unit associated with each fuel during the year covered by the report (the year of record). eDEP will calculate the actual emissions for each fuel, unless you have checked the box next to the pollutant. Please see Appendix C for more detailed information on calculating actual emissions.

Actual (in Tons) for year of record

Put a check in the appropriate box if you choose to calculate the emissions from this fuel yourself. Otherwise the system will calculate this information for each pollutant except for those that you put a check in the box.

NOTE: although actual emissions that are less than 0.0001 are rounded to zero, when the form is validated; All values greater than or equal to zero are used to calculate the CO2e amount for each pollutant. In the validation process, the CO2e value is calculated. If the actual emissions amount is less than 0.0001, the amount is changed to zero

What are emission factors?

Emissions factors are the **amount of pollution generated per unit of operation**. For fuels, total tons of emissions per year are obtained by the formula [**EF in lb/fuel unit] x [fuel usage] / [2000 lb per ton] =** tons per year (**TPY) of emissions**. If you allow eDEP to calculate your emissions, this field will be filled with EPA default emission factors, uncontrolled, based on the SCC. The displayed emission factor is the EPA default emission factor BEFORE the application of the ash or sulfur percent in the calculation.

If you choose to calculate your own emissions, you must enter the emission factor that you used. The EPA emission factors used by eDEP can be found at: https://www.mass.gov/quides/massdep-source-registration.

Because they are generic, the EPA SCC emission factors are not applicable in all situations. They may overstate emissions for facilities

See Appendix C for more information about using emissions factors to calculate emissions.

Emission factor

Provide this information only if you are calculating the emissions yourself, otherwise, the emission factor is provided based upon the SCC Code chosen for this emission unit and fuel combination.

in pounds per unit: (EF Units)

If you are calculating the emissions yourself, the Emission factor units must match the chosen SCC – you must pick the unit from the drop-down menu associated with the chosen SCC. The unit selected should match the unit present in the response to B.1.e and B.2.b.

What EF and EF units should be used to report SF6 and Refrg-CO2e emissions?

Neither SF6 nor Refrg-CO2e require a response in the fields Emission factor (EF) and in pounds per unit. These fields should auto-fill blank and be locked.

How do I use CEMs data?

If you use CEMs to determine annual emissions, report the CEMS emissions value on this form.

IMPORTANT: If you use CEMS to determine annual emissions, you must provide the CEMs equipment information in question A.15 and identify "GHG-CEMS" for Calculation Method.

Calculation Method

If the system is calculating the actual emissions for the pollutant, use GHG-EPA EF: EPA GHG Emission Factor

If you are calculating the actual emissions for the pollutant yourself, you can choose from the following in a dropdown list:

CODE	DESCRIPTION	
GHG-CEMS	Continuous Emission Monitoring System Data	
GHG-User EF	User Provided GHG Emission Factor	
GHG-MatlBalance	Emissions Based on Material Balance	
GHG-TCR EF	General Reporting Protocol EF ⁴	

NOTE: For SF6, the Calculation Method should auto-fill with GHG-MatlBalance and the field will be locked.

Specify General Reporting Protocol EF

If you select GHG-TCR EF from the Calculation Method dropdown list, then you need to select the type of Default Emission Factor from this drop down list.

CO2e for previous year

This information will be provided by the system. For new emission units: This section is not applicable.

CO2e for year of record

The form will automatically calculate the Carbon Dioxide Equivalent (CO2e) of each pollutant where the actual emissions value is greater than zero.

NOTE: although actual emissions that are less than 0.0001 are rounded to zero, when the form is validated; All values greater than or equal to zero are used to calculate the CO2e amount for each pollutant. In the validation process, the CO2e value is calculated. If the actual emissions amount is less than 0.0001, the amount is changed to zero

Total CO2e emissions

The form will automatically calculate the Total Carbon Dioxide Equivalent (CO2e) based on the calculated CO2e of each pollutant where their actual emissions value is greater than zero.

CO2e for previous year

This information will be provided by the system. For new emission units: This section is not applicable.

CO2e for year of record

The form will automatically calculate the Total Carbon Dioxide Equivalent (CO2e) from the Carbon Dioxide Equivalent (CO2e) of each pollutant where the actual emissions value is greater than zero.

NOTE for Section B parent form: You must click [Error Check] now to move on to the next part of the form or to create additional Section B. Fuels and Emissions Forms and then to create Section D: Total Emissions for Emission Unit. The system will force you to make any necessary corrections. For Section B parent form, you must continue to Section C before you can error check your form.

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To continue your work on this emission unit, click on the <AQ AP1 Sec B (or D) form> you see listed under the form you were just working on.

4

⁴ The Climate Registry's General Reporting Protocol and emission factors are available on the TCR website (https://www.theclimateregistry.org/tools-resources/reporting-protocols/general-reporting-protocol/)

C. Notes and Attachments (found on parent form only)

1 Notes:

Information that will help DEP understand your submission. . If an attachment will be associated with this form, identify any additional, explanatory material that you are choosing to submit

This section is to provide any additional information for any of your responses for this EU, including any child forms. If you are including a document, identify any explanatory material the facility is choosing to submit along with this form.

2. Attachments

If the material can be sent electronically, check the box for the appropriate form.

Check this box if additional information will be included as an attachment. If the additional material can be sent electronically (20 MB document), check the box on the appropriate form. You will be prompted just before Step 2 for the attachment.

B. FUELS AND EMISSIONS FOR RAW MATERIALS / FINISHED PRODUCTS/ FUELS (SECTION B CHILD FORM)

NOTE: In general, the information requested below will be pre-populated from MassDEP's Air Quality database. However, certain data submitted to MassDEP in a different format (i.e. CRIS) was not historically stored in the Air Quality database. That data will not appear on the electronic forms until it has been submitted in this new format.

With certain exceptions, which will be noted, the preparer can edit any information listed below.

NOTE: Section B of this form must be completed for each raw material, finished product or fuel that can emit air contaminants used in this emission unit.

How does eDEP handle multiple raw materials or finished products?

In eDEP, a separate Section B form is automatically created for each raw material or finished product on record for this emission unit based on the "Number of fuels for this unit (previous records)". Before checking the box at the right to make a change, please note the following:

- 1) If you need to add a new raw material or finished product or fuel and "Number of fuels for this unit...." is greater than 1, wait to see the other fuels before checking this box, or
- 2) If you ceased using or making a specific raw material or finished product or fuel and "Number of fuels for this unit...." is 1, do NOT check "delete this fuel" unless you also check "Add a new fuel"; this form requires one active fuel to function properly.

NOTE: If the response to A.3.b contains a decommission date (i.e., the emission unit is decommissioned), you do not need to select "delete this fuel".

Delete this material/product/fuel:

Check the box if you stopped using this material or fuel or making this product in this emission unit permanently. You must still report data for this year of record even if amount is "0" – the material/product/fuel will be removed in the next report cycle. **NOTE**: If you ceased using this material/product/fuel and "Number of fuels for this unit...." is 1, do NOT check "delete this fuel" unless you also check "Add a new fuel"; this form requires one active material/product/fuel to function properly.

- 1. Operation Description
- a. Raw material, finished product, or fuel name:

This response is determined based on the SCC. If the SCC is pre-populated, the Raw material, finished product, or fuel name will also be pre-populated. If you added or changed the SCC, the system will automatically fill in the Raw material, finished product, or fuel name when the form is validated. If this response is not a fuel, you can revise the response by selecting from the drop down list.

EPA material type code help text

Material Type Code is a field required by US EPA for the National Emissions Inventory. In most cases, your SCC response will autofill this field but if the response is not appropriate, you can change the response by selecting from this list. (The complete list of EPA Material Type Codes can be found on the SR website: References You Will Need.)

BAW Source Registration &/or Greenhouse Gas Instructions Process (AP-2) Emission Unit Form Page 114 of 230 September 2018 Is this fuel, waste, or raw material/finished product an input, output or fuel?

Check the appropriate box: input, output or fuel.

NOTE1: when the response to A.5 EPA Unit Type Code is a PROCESS HEATER; KILN; CALCINER; DRYER: DIRECT-FIRED OR UNKNOWN IF DIRECT OR INDIRECT OR INDIRECT-FIRED; FLARE; or OTHER COMBUSTION, then a Fuel response is required for one Section B.

NOTE2: Raw Material would be considered an **Input**; finished product would be considered an **Output**, and the "material" used in a fuel burning device would be considered **Fuel**. However, if you use a "fuel" as part of your process operation (and not associated with combustion equipment), this "fuel" would be considered an **Input** or if the "fuel" is being stored and you are required to report breathing loss and/or transfer loss, then this "fuel" would be considered an **Output**.

For example: Using a coating line with natural gas dryers, depending on how you reported the coating operation, the coating(s) used (i.e. ink, paint, dye) would be considered an **Input** and the material that is coated (i.e. fabric, metal parts, cardboard, etc.) would be considered an **Output**. The natural gas used by the dryer would be considered a **Fuel**.

NOTE3: If this information is inaccurate, please contact us at BAW.eDEP@state.ma.us

DEP#

NOTE: The DEP number given here cannot be edited. It corresponds to the old SSEIS segment number and is how MassDEP tracks the raw material/product for this emission unit.

Can I change the DEP fuel identifier?

This ID number is a MassDEP assigned number and cannot be changed

c. Process description:

Write a brief description of the process in which the raw material is used or finished product is created or fuel is burned. (e.g., Cleaning – degreasing)

d. Source Classification Code (SCC)

The SCC is a code for the type of unit operation or production process. EPA's AP-42 (https://www.epa.gov/chief) contains the codes for each type of process, as well as, emission factors that can, in certain circumstances, be used to calculate emissions from each unit process.

SCC Description

The system will automatically fill in the code description.

If the SCC is pre-populated, the SCC Description will also be pre-populated. If you add or changed the SCC, the system will automatically fill in the SCC Description when the form is validated.

What SCC should be used to report SF6 emissions? (for SR/GHG package) Use the following SCC Codes:

- 31306502: Industrial Processes Electrical Equipment Semiconductor Manufacturing Cleaning Process: Plasma Process: Specify Gas Used
- 31306510: Industrial Processes Electrical Equipment Semiconductor Manufacturing Chemical Vapor Deposition: General: Specify Gas Used
- 31306520: Industrial Processes Electrical Equipment Semiconductor Manufacturing Diffusion Process: Deposition Operation: Specify Gas Used
- 31306531: Industrial Processes Electrical Equipment Semiconductor Manufacturing Etching Process: Plasma/Reactive Ion: Specify Gas Used

How does eDEP use Source Classification Codes (SCC)?

SCCs are standard codes EPA uses to identify different operations and the associated emissions factors, if available. The SCC identified the raw material/finished product name or fuel type. The SCC also identifies the *Units per hour* which are used for your response to B.1.e: *Maximum hourly* process rate for material/product/fuel, B.1.g: Total actual raw material, finished product or fuel for year of record: *and the B.3 Emission Factor Units*. The list of SCC valid in eDEP can be found at https://www.mass.gov/guides/massdep-source-registration

If the SCC listed on the form **is wrong**, enter the correct code.

If the form will **not accept the SCC** you are entering, contact MassDEP at BAW.eDEP@state.ma.us.

f. If organic material, give weight % of: VOC, HOC, HYC

VOC, HOC, HYC Determine the weight percentage separately for each category of organic compound. The MSDS provided by your supplier will list the individual chemicals in the formulation.

Total **weight** percentage of:

Volatile Organic Compounds (VOCs) in the formulation Halogenated Organic Compounds (HOCs) in the formulation Hydrocarbons (HYCs) in the formulation

Calculate the weight percentage for each category by summing the weight percent of each individual chemical in the formulation that is in each category.

TIP: The MSDS provided by your supplier will list the individual chemicals in the formulation.

What is the weight percentage of VOC, HOC, HYC?

NOTE: Some formulations will contain a mixture of VOCs, HOCs, and/or HYCs. Others will just contain one of the categories.

Do not confuse WEIGHT percentage with VOLUME percentage. WEIGHT percentage is calculated as follows: 100 X (The weight of the HOCs, VOCs or HYCs in the formulation) / (the total weight of the formulation).

and If fuel is an oil, give percent by weight of Sulfur content

(Acceptable Range 0 – 2.2)

NEW: The percentage of sulfur by weight for oil, only.

TIP: This is determined by analysis of a fuel sample or can be found on the receipt from your fuel dealer.

g. Total actual raw material used or finished product produced for year of record:

Amount

How much of the raw material was used or product was produced or fuel burned during the calendar year being reported and the unit of measure used. Enter "0" if not used/produced/burned in the year of record.

Units

This response is determined based on the SCC. If the SCC is pre-populated, the Units will also be pre-populated. If you added or changed the SCC, the system will automatically fill in the Units when the form is validated. .

This information will be provided by the system based on your last submittal. For new emission units: This information is not applicable.

Amount Prior year Units prior year

BAW Source Registration &/or Greenhouse Gas Instructions Process (AP-2) Emission Unit Form Page 116 of 230 September 2018 h. Do you have raw material or finished product or fuel restrictions?

These would have been expressed in a regulation, the plan approval you received from MassDEP for this emission unit or one that applies to several emission units. Check the appropriate yes or no box. If No, then skip to Question B.1.I.

NOTE: Some emission units will not have plan approvals because:

- 1. they are below the threshold for which a plan approval or permit is required;
- 2. they were installed before the effective date of the regulation; or
- 3. they were "permitted by rule" installed in accordance with the provisions of 310 CMR 7.03: U Plan Approval Exemption.

What if there are multiple raw material or finished product or fuel restrictions?

If the same restrictions also apply to other emission units, report the restrictions on those emission unit forms, as well. Cite the most recent raw material use or finished product restriction applicable to the raw material use or finished product associated with this emission unit. The most recent raw material or finished product restriction may be found in a regulation, an approval that applies only to this emission unit, or one that applies to several emission units, or the facility as a whole.

What if a restriction applies to multiple units?

If a restriction applies to multiple units then list it here and on the forms for each other unit to which it applies. Enter the most recent approval number for the restriction.

i. DEP approval number for restrictions:

Only complete if a plan approval is required: State the approval number for the plan approval that allowed the installation of the emission unit. This number is found on the plan approval letter sent by MassDEP. Cite either plan approval or regulation.

 j. Short term raw material/finished product/fuel restriction
 — if none, leave blank:

Quantity(amount or hours):

Provide the maximum amount of raw material/finished product, you are allowed to use over the short-term period specified in your plan approval. Obtain this from your plan approval letter or regulation..

Units:

Choose the units of measurement from the drop down list. If your units are not on the drop-down menu, email BAW.eDEP@state.ma.us

Per:

Check the appropriate box for the time period: Month, Week, Day or Hour.

k. Annual material/finished product or fuel restriction – if none, leave blank:

Quantity (amount or hours):

Provide the maximum amount of raw material/finished product, you are allowed to use in a year per your permit, and the units of measurement from the drop-down menu. Obtain this from your plan approval letter or regulation

Units:

If your units are not on the drop-down menu, email BAW.eDEP@state.ma.us.

I. Indicate which air pollution control devices from Section A, Question 14 control this material/product/fuel by listing the facility-designated control device ID # for each unit that applies:

Select the ID for the APC Device from the drop-down menu that is use to control this specific material/product/fuel.

IMPORTANT Do not select the same control more than once.

NOTE: if three controls are listed in A.14 and only one of these controls apply to this material/product/fuel, select this control here.

Check here if ALL air pollution control devices on the unit apply to this material/product/fuel

Use the check box if all air pollution control devices on the unit apply to this material/product/fuel.

What to do if your new control device does not show up in the drop-down menu?

Validate the form by selecting [Error Check].

If you have added or amended the air pollution control device(s) associated with this raw material/finished product/fuel, you must first validate the form to populate the drop-down menu with the new control device.

Once you have successfully validated the form, the added or amended air pollution control device(s) will be in the drop-down menu.

B. SOURCE REGISTRATION EMISSIONS (SECTION B CHILD FORM)

2. Total emissions for this raw material/product – tons per year:

Provide the following information for all pollutants emitted by the emission unit.

What are total emissions for this material/finished product?

This section records the total actual, unrestricted potential and permitted (allowable) emissions for the year covered by this report (the year of record) of each pollutant that is attributed to this raw material or finished product for the emission unit(s) reported on this AP-2. Please see the <u>Appendix</u> of or detailed information on calculating emissions.

PM10-FIL PM2.5-FIL PM-CON SO2 PB
VOC NH3 CO NO2

Specify other pollutant

Calculations: Read First

The emissions in Source Registration should be as accurate as possible, neither under- or overestimated. Please use engineering judgement to select the best information available for calculating your facility's emissions. The best information comes from CEMS, then from stack testing. If neither of these are available, use equipment_specific emission factors from the manufacturer (where such manufacturer's numbers represent actual performance rather than an emission limit the unit is guaranteed to meet) or_EPA factors when unit-specific data is not available. Ordinarily, permit limits should not be used to estimate actual emissions. See Appendix Omega of Appendix Omega of Appendi

When is NH3 emissions required?

NH3 emissions is required if APC Device is SNCR (SELECTIVE NONCATALYTIC REDUCTION) OR SCR (SELECTIVE CATALYTIC REDUCTION)

PM FILTERABLE VS. PM CONDENSABLE

MassDEP reports PM emissions to EPA as filterable. Therefore, if you calculate your own emissions, YOU SHOULD REPORT ONLY FILTERABLE PM10 AND PM2.5.

Do NOT add in condensable emissions. Do not use emission factors for primary PM (e.g., PM2.5-PRI) which includes both filterable and condensable emissions. EPA generally labels emission factors for filterable PM as -FIL (e.g., PM2.5-FIL) whereas primary PM emissions factors are labeled –PRI (e.g., PM2.5-PRI).

Calculate condensable emissions separately

Actual for previous year

This information will be provided by the system. For a new emission unit: This information is not applicable.

What are "actual emissions"?

Actual emissions are an estimate of the total tons of each pollutant emitted by the emission unit associated with each raw material/finished product/fuel during the year covered by the report (the year of record). For Process (AP-2) forms, eDEP will not auto-calculate the actual emissions. Please see Appendix C for more detailed information on calculating actual emissions.

Actual for year of record:

Calculate this information. The actual emissions for the calendar year being reported. **You must calculate your Actual Emissions**. (see <u>Appendix C</u>: Example Calculations.)

NOTE: In many cases, AP-42/FIRE emission factors found in EPA's website (https://www.epa.gov/chief) can be used to estimate actual emissions.

CAUTION: The emissions in Source Registration should be as accurate as possible, neither underor overestimated. Please use engineering judgement to select the best information available for calculating your facility's emissions. The best information comes from CEMS, then from stack testing. If neither of these are available, use equipment_specific emission factors from the manufacturer (where such manufacturer's numbers represent actual performance rather than an emission limit the unit is guaranteed to meet) or_EPA factors when unit-specific data is not available. Ordinarily, permit limits should not be used to estimate actual emissions. See Appendix C for guidance on calculating your own emissions.

How do I use CEMs data?

If you use CEMs to determine annual emissions, report the CEMS emissions value on this form.

IMPORTANT: If you use CEMS data for your actual emissions, you must provide the CEMs equipment information in question A.15 and identify "Continuous Emission Monitoring System (CEMs)" for Calculation Method.

Potential Emissions (in Tons)

Calculate this information. (See Appendix C: Example Calculations.)

The definition of Potential Emissions in 310 CMR 7.00 takes into account the restrictions of a plan source's plan approval(s), approved emission control plan(s), operating permit, certification(s), restricted emission status, notification(s) and applicable regulations. If you have a restriction that meets one of these conditions for this emission unit AND raw material/finished product/fuel, you may list that pollutant's potential emissions number here AND in the next section. However, if this emission unit AND raw material/finished product/fuel does not have a restriction, the number entered here should be based on maximum uncontrolled emissions

Potential emissions are the maximum uncontrolled emissions assuming the emission unit operates at maximum capacity 24 hours per day, 7 days a week, 52 weeks a year (8760 hours per year)..

You may apply controls and restrictions to calculation the potential emissions only under the following conditions (see 310 CMR 7.00 Definitions, potential emissions): any physical or operational limitation on the capacity of the unit to emit any air contaminant or pollutant, including air pollution control equipment and/or restrictions on hours of operation, or on the type or amount of material combusted, stored or processed, shall be treated as part of the design **only if** the limitation is specifically stated in the facility's or stationary source's plan approval(s), approved emission control plan(s), operating permit, certification(s), restricted emission status, notification(s) and applicable regulations, or in the case of de minim is sources, in records established and maintained at the facility pursuant to 310 CMR 7.02(2)(b).

ENTER "0" if the unit was decommissioned prior to this year of record because the unit did not represent potential emissions during the year of record.

IMPORTANT: For each pollutant where your potential emission is based on controls and/or restrictions, you MUST also update the field "maximum allowed emissions – annual" with this same value.

What are potential emissions?

The emissions resulting from the maximum operation of the equipment irrespective of any regulatory restrictions. (8760 hrs X Max Firing Rate X Emission Factor)

NEW: you may apply controls and restrictions to calculation the potential emissions only under the following conditions (see 310 CMR 7.00 Definitions, potential emissions): any physical or operational limitation on the capacity of the unit to emit any air contaminant or pollutant, including air pollution control equipment and/or restrictions on hours of operation, or on the type or amount of material combusted, stored or processed, shall be treated as part of the design **only if** the limitation is specifically stated in the facility's or stationary source's plan approval(s), approved emission control plan(s), operating permit, certification(s), restricted emission status, notification(s) and applicable regulations, or in the case of *de minim is* sources, in records established and maintained at the facility pursuant to 310 CMR 7.02(2)(b).

IMPORTANT: For each pollutant where your potential emission is based on controls and/or restrictions, you MUST also update the field "maximum allowed emissions – annual" with this same value.

Emission factor:

Provide this information.

NOTE: In many cases, AP-42/FIRE emission factors found in EPA's website (https://www.epa.gov/chief) can be used to estimate actual emissions.

in pounds per unit (EF Units):

NEW - If you are calculating the emissions yourself, the Emission factor units must match the chosen SCC. The unit selected must match the unit present in the response to B.1.e and B.1.g.

What are emission factors (EF)?

Emissions factors are the **amount of pollution generated per unit of operation**, uncontrolled based on the SCC. For example, for coating operations, the emission factor is often expressed as lb emitted per gallon of coating applied. Therefore, total tons of emissions per year are obtained by the formula [EF in lb/ raw material] x [raw material/finished product/fuel usage] / [2000 lb per ton] = TPY of emissions.

When you calculate your own emissions, you must enter the emission factor that you used. The EPA emission factors used by eDEP can be found at: https://www.mass.gov/guides/massdep-source-registration.

CAUTION: The emissions in Source Registration should be as accurate as possible, neither under-or overestimated. Please use engineering judgement to select the best information available for calculating your facility's emissions. The best information comes from CEMS, then from stack testing. If neither of these are available, use equipment_specific emission factors from the manufacturer (where such manufacturer's numbers represent actual performance rather than an emission limit the unit is guaranteed to meet) or EPA factors when unit-specific data is not available. Ordinarily, permit limits should not be used to estimate actual emissions. See Appendix C for guidance on calculating your own emissions.

Appendix C provides more information about using emissions factors to calculate emissions.

Calculation Method

NEW: If the system is calculating the actual and potential emissions for the pollutant, use "USEPA Emission Factor (pre-control) plus Control Efficiency"

If you are calculating the actual and potential emissions for the pollutant yourself, you can choose from the following in a dropdown list:

DESCRIPTION			
Continuous Emission Monitoring System			
Engineering Judgment			
Manufacturer Specification			
Material Balance			
Other Emission Factor (pre-control) plus Control Efficiency			
S/L/T Emission Factor (pre-control) plus Control Efficiency			
Site-Specific Emission Factor (no Control Efficiency used)			
Site-Specific Emission Factor (pre-control) plus Control Efficiency			
Stack Test (no Control Efficiency used)			
Stack Test (pre-control) plus Control Efficiency			
Trade Group Emission Factor (no Control Efficiency used)			
Trade Group Emission Factor (pre-control) plus Control Efficiency			
Vendor Emission Factor (no Control Efficiency used)			
Vendor Emission Factor (pre-control) plus Control Efficiency			

Maximum allowed emissions – annual:

Provide this information if there is a plan approval or a regulation for this raw material /product (as opposed to for the emission unit as a whole.)

Maximum allowed emissions - short term:

Short term period

Maximum short term emissions allowed pursuant to your permit or plan approval or regulatory restriction based on a short term period of day, hour, week, month or Million BTUS. Select the appropriate response from the drop down list

When to enter maximum allowed emissions?

Complete the "maximum allowed emissions" fields if there is an annual or short-term emission limitation applicable to the raw material/finished product/fuel expressed in either a MassDEP approval or a regulation. Be sure to enter the approval number or regulation under "Basis" below.

NOTE: If you calculated your potential emissions using controls and/or restrictions (rather than using the eDEP calculation feature or entering max capacity uncontrolled for potential), you MUST also enter a "maximum allowed emissions — annual" and the values for potential and maximum allowed annual emissions must be the same.

Basis- DEP approval number or regulation:

This field is required if maximum allowed emissions values are present. Provide either the regulatory citation if the emission unit was installed through a permit by rule or the plan approval number. If a plan approval is not required: Cite the regulation under which the equipment was installed.

NOTE: Some emission units will not have plan approvals because:

- 4. they are below the threshold for which a plan approval or permit is required;
- 5. they were installed before the effective date of the regulation; or
- 6. they were "permitted by rule" installed in accordance with the provisions of 310 CMR 7.03: U Plan Approval Exemption.

If a plan approval established emission limits for the pollutant, write the approval number t. This number is found on the letter sent by MassDEP.

If a regulation established emission limits for the pollutant, cite the regulation.

NOTE for Section B child form: You must click [Error Check] now to move on to the next part of the form or to create additional Section B. Fuels and Emissions Forms and then to create Section D: Total Emissions for Emission Unit. The system will force you to make any necessary corrections. For Section B parent form, you must continue to Section C before you can error check your form.

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To continue your work on this emission unit, click on the <AQ AP1 Sec B (or D) form> you see listed under the form you were just working on.

B. GREENHOUSE GAS EMISSIONS (IN SR/GHG PACKAGE) (SECTION B CHILD FORM)

This section is not present in the SR Only package.

For facilities required to report Greenhouse Gas (GHG) emissions, all emission units that burn fuel are required to report GHG emissions.

3. Total GHG emissions for this fuel only in tons per year:

Provide the following information for all pollutants emitted by the emission unit for this material/product/fuel only

CO2 CH4 N2O SF6 Refrigerants-CO2e CO2e-CO2 CO2e-CH4 CO2e-N2O CO2e-SF6 CO2e-Refrigerants

Other GHG Pollutant CO2e- Other GHG Pollutant

CALCULATIONS: READ FIRST

The form will automatically calculate the actual emissions from your annual throughput and EPA default emission factors. To calculate your own emissions, check the box next to each pollutant's name (eDEP will calculate the emissions for any pollutant where you do not check the box).

The form will automatically calculate the Carbon Dioxide Equivalent (CO2e) for each specific pollutant and the Total CO2e based on the actual emissions values; manual calculating of these values is not an option.

Why you may want to calculate your own emissions values?

The GHG emissions should be as accurate as possible, neither under- or overestimated. Please use engineering judgement to select the best information available for calculating your facility's emissions. The best information comes from CEMS, then from stack testing. If neither of these are available, use equipment_specific emission factors from the manufacturer (where such manufacturer's numbers represent actual performance rather than an emission limit the unit is guaranteed to meet) or_EPA factors when unit-specific data is not available. Please see Appendix C for more guidance on calculating your own emissions

Actual (in Tons) for previous year:

This information will be provided by the system. For new emission units: This section is not applicable.

What are "actual emissions"?

Actual emissions are an estimate of the total tons of each pollutant emitted by the emission unit associated with each fuel during the year covered by the report (the year of record). eDEP will calculate the actual emissions for each fuel, unless you have checked the box next to the pollutant. Please see Appendix C for more detailed information on calculating actual emissions.

Actual (in Tons) for year of record

Put a check in the appropriate box if you choose to calculate the emissions from this fuel yourself. Otherwise the system will calculate this information for each pollutant except for those that you put a check in the box.

NOTE: although actual emissions that are less than 0.0001 are rounded to zero, when the form is validated; All values greater than or equal to zero are used to calculate the CO2e amount for each pollutant. In the validation process, the CO2e value is calculated. If the actual emissions amount is less than 0.0001, the amount is changed to zero

What are emission factors?

Emissions factors are the **amount of pollution generated per unit of operation**. For fuels, total tons of emissions per year are obtained by the formula [**EF in lb/fuel unit] x [fuel usage] / [2000 lb per ton] =** tons per year (**TPY) of emissions**. If you allow eDEP to calculate your emissions, this field will be filled with EPA default emission factors, uncontrolled, based on the SCC. The displayed emission factor is the EPA default emission factor BEFORE the application of the ash or sulfur percent in the calculation.

If you choose to calculate your own emissions, you must enter the emission factor that you used. The EPA emission factors used by eDEP can be found at: https://www.mass.gov/guides/massdep-source-registration.

Because they are generic, the EPA SCC emission factors are not applicable in all situations. They may overstate emissions for facilities

See Appendix C for more information about using emissions factors to calculate emissions.

Emission factor

Provide this information only if you are calculating the emissions yourself, otherwise, the emission factor is provided based upon the SCC Code chosen for this emission unit and fuel combination.

in pounds per unit: (EF Units)

If you are calculating the emissions yourself, the Emission factor units must match the chosen SCC – you must pick the unit from the drop-down menu associated with the chosen SCC. The unit selected should match the unit present in the response to B.1.e and B.2.b.

What EF and EF units should be used to report SF6 and Refrg-CO2e emissions?

Neither SF6 nor Refrg-CO2e require a response in the fields Emission factor (EF) and in pounds per unit. These fields should auto-fill blank and be locked.

How do I use CEMs data?

If you use CEMs to determine annual emissions, report the CEMS emissions value on this form.

IMPORTANT: If you use CEMS to determine annual emissions, you must provide the CEMs equipment information in question A.15 and identify "GHG-CEMS" for Calculation Method.

Calculation Method

If the system is calculating the actual emissions for the pollutant, use GHG-EPA EF: EPA GHG Emission Factor

If you are calculating the actual emissions for the pollutant yourself, you can choose from the following in a dropdown list:

3 1	
CODE	DESCRIPTION
GHG-CEMS	Continuous Emission Monitoring System Data
GHG-User EF	User Provided GHG Emission Factor
GHG-MatlBalance	Emissions Based on Material Balance
GHG-TCR EF	General Reporting Protocol EF5

NOTE: For SF6, the Calculation Method should auto-fill with GHG-MatlBalance and the field will be locked.

Specify General Reporting Protocol EF

If you select GHG-TCR EF from the Calculation Method dropdown list, then you need to select the type of Default Emission Factor from this drop down list.

CO2e for previous year

This information will be provided by the system. For new emission units: This section is not applicable.

CO2e for year of record

The form will automatically calculate the Carbon Dioxide Equivalent (CO2e) of each pollutant where the actual emissions value is greater than zero.

NOTE: although actual emissions that are less than 0.0001 are rounded to zero, when the form is validated; All values greater than or equal to zero are used to calculate the CO2e amount for each pollutant. In the validation process, the CO2e value is calculated. If the actual emissions amount is less than 0.0001, the amount is changed to zero

Total CO2e emissions

The form will automatically calculate the Total Carbon Dioxide Equivalent (CO2e) based on the calculated CO2e of each pollutant where their actual emissions value is greater than zero.

CO2e for previous year

This information will be provided by the system. For new emission units: This section is not applicable.

CO2e for year of record

The form will automatically calculate the Total Carbon Dioxide Equivalent (CO2e) from the Carbon Dioxide Equivalent (CO2e) of each pollutant where the actual emissions value is greater than zero.

NOTE for Section B child form: You must click [Error Check] now to move on to the next part of the form or to create additional Section B. Fuels and Emissions Forms and then to create Section D: Total Emissions for Emission Unit. The system will force you to make any necessary corrections. For Section B parent form, you must continue to Section C before you can error check your form.

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To continue your work on this emission unit, click on the <AQ AP1 Sec B (or D) form> you see listed under the form you were just working on.

_

⁵ The Climate Registry's General Reporting Protocol and emission factors are available on the TCR website (https://www.theclimateregistry.org/tools-resources/reporting-protocols/general-reporting-protocol/)

D. TOTAL EMISSIONS FOR EMISSION UNIT (SEPARATE CHILD FORM)

The actual, potential and, if applicable, permitted emissions from this unit for each listed air contaminant during the calendar year being reported. This form only appears if more than one Section B is present for the emission unit

NOTE: manual calculating of actual and potential emissions is not an option.

1. Total Emissions for this emission unit in tons per year

Calculations: This form automatically calculates this emission unit's total actual and potential emissions (if you have correctly provided all of the emissions for each fuel in each Section B). Return to Section B forms if you need to correct those numbers.

PM10 <mark>-FIL</mark>	PM2.5 <mark>-FIL</mark>	PM-CON	SO2	PB
VOC	NH3	CO	NO2	

What are total emissions for this emission unit?

This form automatically calculates the total actual and potential emissions of each pollutant from this emission unit. It calculates these values from the data you entered in Section B: Emissions for each fuel.

Please enter any emission limits that apply to the unit as a whole (regardless of fuel) under "Permitted" below.

Actual (in Tons) for previous year

The actual emissions for the prior year reported

For repeat filers: This information will be provided by the system.

For new emission units: This section is not applicable.

Actual (in Tons) Emissions

The actual emissions for the calendar year being reported
This information will be provided by the system and is the sum of the emissions from each fuel (from each Section B).

Potential emissions (in Tons)

This information will be calculated by the system and is the potential to emit from all fuels (Section Bs).

Maximum allowed emissions (in Tons) – annual

These questions only apply if this emission unit is subject to a plan approval or permit or regulation that restricts operations or emissions, regardless of fuel. If the restriction is fuel-specific, it should be entered in the appropriate fuel's Section B.

Maximum annual emissions allowed pursuant to your permit or plan approval or regulatory restriction.

NOTE: Some emission units will not have plan approvals because:

- 1. they are below the threshold for which a plan approval or permit is required:
- 2. they were installed before the effective date of the regulation; or
- 3. they were "permitted by rule" installed in accordance with the provisions of 310 CMR 7.03: U Plan Approval Exemption.

Maximum allowed emissions (in Tons) - short term

Maximum short term emissions allowed pursuant to your permit or plan approval or regulatory restriction based on a short term period of day, hour, week, month or Million BTUS. Select the appropriate response from the drop down list

Short term period:

Basis – DEP approval number or regulation:

Provide either the plan approval or regulation establishing the emission limits for this EU as a whole.

NOTE: Some emission units will not have plan approvals because:

- 1. they are below the threshold for which a plan approval or permit is required;
- 2. they were installed before the effective date of the regulation; or
- 3. they were "permitted by rule" installed in accordance with the provisions of 310 CMR 7.03: U Plan Approval Exemption.

If a plan approval established emission limits for the pollutant associated with this EU , write the approval number. This number is found on the letter sent by MassDEP.

If a regulation established emission limits for the pollutant, cite the regulation

When do I complete the "allowable" emission fields?

Complete the "allowable" field if there is an annual or a short-term **emission limitation applicable to the emission unit as a whole** expressed in either a MassDEP approval or a regulation. Be sure to enter the approval number or regulation under "Basis".

What if a restriction applies to multiple units?

If a restriction applies to multiple units then list it here and on the forms for each other unit to which it applies. Make a note in Section C that it applies to multiple units and describe the restriction.

2. Ozone season schedule - May 1 through September 30:

Ozone season calculation options:

This form automatically calculates an estimate of the ozone season emissions for this emission unit using the data you provided on ozone season operation (Questions A.11a through A.11.c) and some simplifying assumptions. If you wish to report a more precise value based on your own calculations and data, check the box below the blank lines at D2a, and D2b.

a. Typical day VOC emissions – pounds per day

b. Typical day NOx emissions – pounds per day

The system will calculate this information on the basis of data you supplied on the form.

Check to enter your own values

NOTE: The form will estimate the ozone season emissions for you. However, you may enter your own values by checking the boxes.

You must click [Error Check] now to move on to the next form. The system will force you to make any necessary corrections

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To continue your work on this emission unit, click on the next form you see listed under the form you were just working on.

D. GHG EMISSIONS REPORTING (IN SR/GHG PACKAGE)

The form automatically calculates the total actual emissions, total carbon dioxide equivalent (CO2e) for each specific pollutant and the Total CO2e based on the actual emissions values; manual calculating of these values is not an option.

Total GHG Emissions for this emission unit in tons per year

Calculations: This form automatically calculates this emission unit's total actual emissions (if you have correctly provided all of the emissions for each fuel in each Section B). Return to Section B forms if you need to correct those numbers.

CO₂ CH4 N20 SF6 Refrigerants-CO2e CO2e-CO2 CO2e-CH4 CO2e-N2O CO2e-SF6 CO2e-Refrigerants

What are total emissions for this emission unit?

This form automatically calculates the total actual emissions, total carbon dioxide equivalent (CO2e) for each specific pollutant and the Total CO2e from this emission unit. It calculates these values from the data you entered in Section B: Emissions for each fuel.

The actual emissions for the prior year reported Actual (in Tons) for previous year

For repeat filers: This information will be provided by the system.

For new emission units: This section is not applicable.

The actual emissions for the calendar year being reported Actual (in Tons) Emissions

This information will be provided by the system and is the sum of the emissions

from each fuel (from each Section B).

The actual emissions for the prior year reported CO2e for previous year (in Tons)

For repeat filers: This information will be provided by the system.

For new emission units: This section is not applicable.

The CO2e for each specific pollutant for the calendar year being reported CO2e year (in Tons)

This information will be provided by the system and is the sum of the emissions

from each fuel (from each Section B).

Total CO2e emissions

This information will be provided by the system. CO2e for previous year

For new emission units: This section is not applicable.

The Total Carbon Dioxide Equivalent (CO2e) for the calendar year being reported CO2e for year of record

This information will be provided by the system and is the sum of the emissions

from each fuel (from each Section B).

You must click [Error Check] now to move on to the next form. The system will force you to make any necessary corrections

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To continue your work on this emission unit, click on the next form you see listed under the form you were just working on.

BAW AQ EMISSION UNIT -INSTRUCTIONS: INCINERATOR (AP-3)

PURPOSE

This form provides MassDEP with information about the equipment, processes, and associated air pollution emissions during the calendar year being reported from the incineration of waste such as solid waste, municipal waste, medical waste, sludge, and other combustible waste materials.

WHEN IS THIS FORM APPLICABLE?

This form applies to any waste incineration emission units and their auxiliary burners at your facility excluding air pollution control equipment reported on the appropriate form for the units controlled (e.g., flares or thermal oxidizers).

NOTE that you must report on any idle units with each submittal.

NOTE: You do not complete a Fuel Burning Device form for an incineration emission unit.

Source Registration reporting applies to any owner/operator of a facility if such facility meets any of the criteria in 310 CMR 7.12(1)(a)1-11

- 4. Is or contains a hazardous waste incinerator, regardless of size.
- 5. Is or contains an incinerator with the capacity to reduce 50 pounds per hour or more of waste.

NOTE: Once a facility is subject to 310 CMR 7.12, all emission units and processes at the facility shall be included in the Source Registration even if, individually, certain emission units and processes may not meet the applicability thresholds of 310 CMR 7.00.

HOW MANY VERSIONS OF THIS FORM ARE REQUIRED?

One form is required for each incinerator unit, including those that you have added or decommissioned since your last submittal

NOTE: You may NOT combine reporting for more than one incinerator on a single form.

CAUTION: FOR FILERS WITH NEW INCINERATOR EMISSIONS UNITS SINCE THEIR LAST SUBMITTAL

You must create a new emission unit form for any new emission unit. If you have not already created the new emissions unit, prior to submitting your complete source registration (when first opening your source registration package), you must either:

- 1)) Under Transaction Overview, open the first form labeled <AQ Source Registration Package> or <AQ Source Registration & Greenhouse Gas Package>;
 - Under Section A, Q.1 check the box that indicates new equipment has been added;
 - Under Transaction Overview, select <New Unit Form Creator (New Form Creator)>;
 - Choose the appropriate form and enter the number of new units;
 - Validate the form by selecting [Error Check] Error Check;
 - Follow subsequent instructions.

----or----

- 2) You must create a new eDEP partial AQ Source Registration package for that emission unit. Once you have submitted the package you are working on:
 - Return to "Start New" Forms"; "Air & Climate";
 - Select your package using "Start Transaction;
 - In Preform, if correction is to a prior reporting year submittal, change the reporting year using the drop down list;
 - In Overview Form, unselect Existing Facility and put a check mark by the units that you want to amend. Or if you need to add a unit, check the box under A.1 "check if you added emission units";
 - Follow subsequent instructions pertaining to the New Unit Form Creator (New Form Creator).

IMPORTANT: Before amending your package for the current reporting year, email BAW.eDEP@state.ma.us to confirm that your submittal has been accepted by MassDEP.

CAUTION: If you realize in the midst of completing this package that you need to create additional forms, DO NOT return to this Overview form UNLESS you are willing to revalidate each previously validated form. Revalidation requires that you must open and revalidate every form in the package – you don't lose any of the data you have entered, but the process can be time consuming, particularly for a facility with more than 5-10 validated forms.

The best way to add emission units or stacks AFTER you have completed much of your package may be by submitting a supplemental package (Option 2 above).

CAUTION: REGARDING THE ORDER IN WHICH YOU COMPLETE YOUR FORMS

If this unit's emissions release point is a new "vertical release point" (stack). You must create and complete a BAW AQ Stack form for that new stack prior to filling out completing this form. The stack drop down-menu (A.13) will not contain the new stack and you will be unable to validate this form and will be forced to Save and then Exit this form. You will have to return to complete it after validating the new stack for the replacement stack.

A. EMISSION UNIT—INCINERATOR INFORMATION

NOTE: In general the information requested below will be pre-populated from MassDEP's electronic database. However, certain data submitted to MassDEP in a different format (i.e. via the Climate Registry Information System (CRIS) was not historically stored electronically. That data will not appear on the electronic forms until it has been submitted in this format.

With certain exceptions, which will be noted, the preparer can edit any information listed below.

TIP: If you obtained a plan approval for the emission unit(s) you are reporting you will have received two documents from MassDEP: a plan approval letter and a copy of the permit application that you submitted to MassDEP. It will be easier to fill out the Source Registration forms if you refer to those two documents.

- 1. Facility Identifiers
- a. Facility Name
- b. DEP Account number
- c. Facility AQ Identifier

The name and identifying numbers of the facility that you are reporting.

This will be pre-populated from the information on your BAW AQ Facility Information Form.

NOTE: You cannot change the facility name on this form. To change the facility name you must contact your MassDEP Regional Office FMF Data Manager.

CAN I CHANGE THE RESPONSES TO THE EMISSION UNIT IDENTIFIER FIELDS?

eDEP allows you to change the name (2.a) and give your own number (2.b) to each emission unit. MassDEP keeps track of the units by the DEP number (2.c), and therefore you cannot change this field.

2. Emission unit identifiers

If this is a new Emission Unit: Assign the emission unit a name/number in order to uniquely identify it. If this is an existing Emission Unit: Assign or change the emission unit name/number in order to uniquely identify it.

a. Facility's choice of emission unit name- edit as needed.

A unique name of your choice that will allow you to recognize this unit on future reports

b. Facility's emission unit number / code – edit as needed.

A unique number or code of your choice that will allow you to recognize this unit on future reports. Example: INCINERATOR #1+WASTE HEAT BOILER, MUNICIPAL WASTE COMBUSTOR, PATHOLOGICAL INCINERATOR, etc.

BAW Source Registration &/or Greenhouse Gas Instructions Incinerator (AP-3) Emission Unit Form (for SRGHG Package) Page 130 of 230 September 2018

How is a flare reported?

When a flare is a control device for a process emission unit, is should be reported as such on the AP-2 Form for that process unit. If this unit was previously reported as an incinerator on an AP-3 form, please do the following:

- 1. report the flare on the Process (AP-2) form that it controls,
- 2. note in Section C: Notes on the Process (AP-2) form that you are reporting the flare on the Process (AP-2) form rather than the Incinerator (AP-3) form, and
- 3. enter a decommission date in the Incinerator (AP-3) form (causing it to be removed in future submittals) and enter 0 for all throughputs and emissions.

EXCEPTION: Flares at landfills should be reported on a Fuel Burning Device (AP-1) form.

c. DEP emission unit #

This is a unique number assigned by MassDEP that allows MassDEP to recognize the unit on future reports

If this is a new Emission Unit, the field is blank and locked – MassDEP will assign this number. If this is an existing Emission Unit, the information will be pre-populated for existing emission units.

d. Is GHG emissions reporting required for this emission unit?

A GHG emission reporting is required for all combustion units. A "Yes" response is present and this field is locked.

NOTE: The auxiliary burners use fuel; therefore a "Yes" response is present and this field is locked

3. Emission unit installation and decommission dates

Provide the requested dates in the appropriate lines. If the unit was installed many years ago and you do not know the exact date, use your best approximation.

a. Installation dates – estimate if unknown (mm/dd/yyyy)

The date on which the unit became operational. Do not leave blank: Estimate if unknown.

b. Decommission dates – If applicable (mm/dd/yyyy)

Complete only if the unit was shut down permanently or replaced any time before December 31st of the year of record.

DELETE A UNIT HELP TEXT

Enter a decommission date in 3.b IF the unit is being permanently taken out of service. For fuel burning devices or Incinerators, if the equipment is not removed, MassDEP considers a unit as permanently taken out of service if the fuel lines are cut or the burner head has been removed.

HOW / WHEN TO DELETE A UNIT?

Enter a decommission date in 3.b IF the unit is being **permanently taken out of service**. For Fuel Burning Devices (including those associated with Process equipment) or Incinerators, if the equipment is not removed, MassDEP considers a unit as permanently taken out of service if the fuel lines are cut or the burner head has been removed.

If the decommissioned unit operated in the year of record, the emissions from that unit must be included. Therefore units "decommissioned" in this package will remain on the list of emission units for this year of record. They will NOT appear on the NEXT package however.

NOTE: If you decommissioned a unit prior to the year of record (and are decommissioning it in this package) you must enter zero for the maximum input rating (MMBtu/hr), annual fuel usage, and actual emissions.

4. Emission unit replacement

a. Is this unit replacing another emission unit?

Check the appropriate box, yes or no. If Yes, then complete 4.b. Otherwise, continue on to Question 5.

b. DEP's emission unit number and facility unit name.

Choose from the drop-down menu. It is populated with the emission units you decommissioned in this and previous submittals for this year of record.

HOW TO BE SURE THE UNIT BEING REPLACED APPEARS IN THIS MENU?

Line A.4.b. "DEP's emission unit number and facility's name for emission unit" are mandatory fields when the "yes" box is checked. However the unit being replaced **will not appear as a choice** on the drop down menu **until it is decommissioned**. You will not be able to complete and error check the form for a replacement unit until you have first entered a decommission date and completed an error check of the form for the unit it is replacing. If this unit is replacing another unit that has NOT been "decommissioned", you must 1) save and exit this form, 2) open the form for the unit being replaced, 3) enter the decommission date, 4) complete the error check for the form for the decommissioned unit before you can complete the form for the unit it is replacing.

WHAT IF ONE EMISSION UNIT IS REPLACING MORE THAN ONE UNIT?

If one new emission unit is replacing several units, pick one of the units being replaced from the dropdown menu and note the others in Section C Notes and Attachments

5. Incinerator description:

a. Type: Choose the incinerator type from the drop down list:

Commercial Cremation-Animal Cremation-Human Industrial Medical Metal Recovery

Municipal Sludge

b. Manufacturer Firm that built the unit, information can be usually found on metal nameplate on unit.

Do not leave blank: enter UNKNOWN, if unknown.

c. Model number Information can be found on metal nameplate on unit.

Do not leave blank; enter unknown if unknown

d. Maximum operating capacity: Maximum rated capacity regardless of permit limitations, information can be found on metal nameplate on

unit. Do not leave blank: estimate if unknown

Amount Enter the maximum rated capacity regardless of permit limitations. Do not leave blank: estimate if

In units of: pounds OR unknown.

Tip: The manufacturer's maximum input rating may be located on a metal nameplate on the unit. .

WHAT TO DO IF DATA UNKNOWN OR NOT AVAILABLE?

tons of waste per hour

Do not leave blank: if date or numeric field - estimate; for other fields enter UNKNOWN, if unknown.

e. Pounds of steam per hour Required if response to question A.5.a equals Municipal or Sludge.

f. MMBtu per hour

Enter the approximate MMBtu per hour of the waste stream to the incinerator. The waste stream includes the fuel and the material being incinerated.

g. Charging rate restriction (for batch units only):

Amount

If the facility is a batch unit and it has a restriction imposed through a plan approval, enter the maximum charging rate per hour and the units.

In units of: pounds OR tons of waste per hour

h. Heat recovery: Check yes if the incinerator engages in this practice, no if not.

i. Number of hearths: Enter the total number of hearths for this emissions unit.

j. Total hearth area: (in square feet)

k. Automatic feeder?

Total Square Feet of all the hearths in this emission unit.

Check yes if the incinerator has this equipment, no if it does not.

WHAT IF THE EMISSION UNIT HAS MORE THAN ONE DEP APPROVAL?

Cite the most recent plan approval that includes specific requirements applicable to this emission unit. Do not cite an approval that sets a general requirement for the facility as a whole, unless it also establishes specific conditions for this emission unit. Approvals that apply facility-wide are cited on the AP-TES form. Similarly do not cite your most recent Air Operating Permit if you have one unless a more stringent limit is established in the operating permit for the emission unit. Usually the Air Operating Permit is a compilation of requirements included in other plan approvals or applicable regulations.

NOTE: A particular plan approval may be cited more than once in the package or on a form. For example, a plan approval that includes specific requirements for more than one emission unit will be cited on the AP form for each emission unit it covers. Similarly if a plan approval specifies conditions for the emission unit and for the monitor, raw material, fuel, and/or air pollution control device it will be cited on each applicable question on the emission unit form.

6. DEP Air Quality Approvals

Write the number for the plan approval that allowed the installation of the incinerator. This number is found on the letter sent by MassDEP that informed you that they approved the unit.

a. Most recent approval number

Most recent plan approval or emission control plan or restricted emission status (excluding the facility's "Air Operating Permit") number applicable to this unit, from MassDEP plan approval letter.

b. DEP approval date (mm/dd/yyyy)

Date of most recent plan approval or emission control plan or restricted emission status (excluding the facility's "Air Operating Permit") applicable to this unit, from MassDEP plan approval letter listed in Question 3.a.

7. Additional reporting requirements

Check the appropriate boxes to report on the existence of any reporting requirements other than source registration for this emissions unit and the frequency of that reporting.

a. Are there other routine air quality reporting requirements for this emission unit?

If yes, specify reporting frequency in 7.b. If no, skip to Question 7.c.

b. Reporting frequency – check all that apply:

Monthly, Quarterly, Semi-annual, Annual, RES (Include Operating Permit and Plan Approval reports, but not exceedance reporting)

c. Is this unit subject to (check all that apply):

NESHAP, NSPS, MACT

8. Hours of operation for the emission unit:

Report on typical operation.

a. Check if typically continuously operated - 24 x 7 x 52

If checked, then these questions will auto-fill with the following responses:

8.b: 248.c: 78.d: 52

> 8.e: Q1; Q2; Q3; Q4: 25 in all four quarters

9.a: 249.b: 79.c: 22

Typical operation
Acceptable range: 0-24

c. Number of days per week

b. Number of hours per day

Typical operation Acceptable range: 0-7

d. Number of weeks per year

Actual operation
Acceptable range: 0-52

e. Percent of time emissions unit is operated each calendar quarter:

Actual percent of total annual operations that occurred in each season (e.g. 40% in Q1, 30% in Q2, 20% in Q3 and 10% in Q4) unit operated

Sum of Q1+Q2=Q3+Q4 must = 100% (or 0%, if the unit was not operational for any quarter).

Q1 is January – March Q2 is April –June Q3 is July – September Q4 is October - December

9. Ozone season schedule – May 1 through September 30:

Actual operation during this period.

IMPORTANT: If you are using eDEP's auto-calculation feature to calculate your Ozone Season Emissions, these fields MUST be updated.

a. Ozone season hours per day

Typical operation Acceptable range: 0-24

b. Ozone seasons days per

week

Typical operation Acceptable range: 0-7

c. Weeks operated in ozone

Typical operation Acceptable range: 0-22

10. Emissions release point

Select the appropriate type of non-stack release point OR physical stack (or release point). If Non-Stack Release Point, skip to Question 12.

Non-Stack Release Points: Physical Stacks

Fugitive Horizontal vent Vertical

Gooseneck Downward facing vent Vertical with rain cap/sleeve

Vertical stack/vent less than 10ft

What is a release point?

The Emission Release Point is the physical structure through which the emissions leave the facility and reach the ambient air. In eDEP, **only vertical release points are considered "stacks**" with assigned DEP and Facility Stack Numbers and an STACK form.

What is the difference between stacks and non-stacks?

If the unit has a physical stack, you must link the unit to that stack in question A.11.

NOTE: If you have installed a new stack, it will not populate the drop-down menu unless you first complete and validate an STACK Form prior to opening this form. To complete the STACK Form, "SAVE" AND "EXIT" this form. Open, complete, and validate the STACK Form of the new stack, and then return to this form.

What about unusual exhausts, such as short vertical vents? **NOTE:** Some units exhaust vertically, but have housings shorter than 10 ft above the roof of the building (e.g., ventilation exhausts that may be 3-5 ft tall. This type of release point does not require a Stack form – Select vertical stack/vent less than 10ft in the Non-Stack Release Point group.

11. Link this unit to a physical stack (if applicable) - Pick from the list.

Facility's stack identifier from Stack form – to change stack name use the Stack form. If the stack for this unit is not listed, save and exit this form now and complete a new Stack form **before** completing this form.

CAUTION: If this unit's emissions release point is a new stack, you must have created and completed a Stack form for that new stack, prior to completing this form. If you do not have the stack information, you will be unable to validate this form; and will be forced to save and exit this form. Once you have created, completed, and validated the new Stack Form, then you may return to complete this form.

NOTE: If the emission release point in Question A.10 is vertical or vertical rain cap/sleeve, then this is a required field.

12. Are there air pollution control (APC) devices on this emissions unit?

Check the appropriate yes or no box. If no, skip to question 13.

How do I add a new APC?

If yes and no devices are present for this emission unit, select "Add New Control Device" button. OR if an existing device is not displayed, scroll to the end of question 12 and select "Add New Control Device" button. When "Add New Control Device" button is selected, the form will reload with blank fields. Answer questions a through i. Once the information for the device has been added, select Update OR if you decide not to add a new device, select Cancel.

How are my existing APCs displayed?

NOTE: if the MassDEP database has active APC(s) for this emission unit, all the devices will be displayed in this section; the response will auto-fill with Yes and the field is locked. Confirm the information present for each device.

How do I revise an existing APC?

If the device information needs to be revised, select <u>Edit</u> found on the top right of the device that needs updating. Once the corrections have been made to the device, select <u>Update</u> OR if you do not to keep the corrections or decide not to make any changes, select <u>Cancel</u>.

What if my APC is used by other EUs?

NOTE: If other emissions units use the same air pollution control equipment, also report this information on the appropriate forms for those units.

How to delete an air pollution control device?

Delete an air pollution control (APC) device by entering a date in Decommission Date (A.12.h) field. Use this when you are removing the device permanently.

How to replace an air pollution control device?

If the APC device was replaced in kind with a new model, enter the new installation date and replace the information on lines a-i, as necessary. Do not enter a "decommission date"— the MassDEP database tracks the change to the APC equipment automatically.

- a e. Air pollution control device (description)** required fields
- a. Type ** (Use the Drop-down Menu)
- b. Manufacturer **
- c. Model Number **
- d. Facility's ID for this Device. ** (the unique number assigned by the facility for the APC equipment)
- e. Installation Date ** (mm/dd/yyyy): The date on which the unit became operational.

f – h. Air pollution control equipment dates and approval numbers:

- f. MassDEP approval number (most recent)g. MassDEP approval date (mm/dd/yyyy)
 - NOTE: Not all air pollution control devices require plan approvals
- h. Decommission date (mm/dd/yyyy) Enter a date here only if the air pollution control device is being permanently removed and not replaced.

What to do if you don't know the date?

Provide your best approximation of the date if you do not know it. Do not leave blank.

How do I report my flare as control device?

When a flare is a control device for a process emission unit, is should be reported as such on the Process (AP-2) form for that process unit. If this unit was previously reported as an incinerator on an AP-3 form, please do the following:

- 1. report the flare on the Process (AP-2) form that it controls,
- 2. note in Section C: Notes on the Process (AP-2) form that you are reporting the flare on the Process (AP-2) form rather than the Incinerator (AP-3) form, and
- 3. enter a decommission date in the Incinerator (AP-3) form (causing it to be removed in future submittals) and enter 0 for all throughputs and emissions.

EXCEPTION: Flares at landfills should be reported on a Fuel Burning Device (AP-1) form.

- i. Percent overall efficiency enter for all pollutants that the device was designed to control:
- ** required fields
- ** The *Percent Overall Efficiency* calculated which equals the APC equipment's Capture Efficiency (the percentage of the emissions that reach the air pollution control unit) multiplied by the APC equipment's *Control Efficiency* (the percentage of the emissions that are removed from the air stream by the Air Pollution Control Equipment.)
- If you have stack-testing data on control efficiency: Use that information.
- If you do not have stack-testing data: Use the manufacturers suggested control efficiency. This is usually expressed as a range of percentages (e.g., 90%-97%). Use the upper end of the range.

PM10 PM2.5 SO2 CO VOC NO2 NH3 HOC HYC HG PB

Other: List any substances not already listed on the form that you are required to control per your plan approval, operating permit, or applicable regulation.

NOTE: Only one "Other" is available for each APC device,

What is the % overall efficiency?

The % overall efficiency for a device equals its ("% capture efficiency" X "% control efficiency"). This is critical for the automatic emissions calculations. This information can be found in the plan approval application, MassDEP's approval for the device and/or in the manufacturer's specification for the device.

13. Is there monitoring equipment on this emissions unit or its related control device?

Answer Yes or No as appropriate, If no, skip to the questions in Section B. Fuels and Emissions.

NOTE: if the MassDEP database has active monitors for this emission unit, all the equipment will be displayed in this section; the response will auto-fill with Yes and the field is locked. Confirm the information present for each device and update as needed

NOTE: Report on each monitor that is on the release point for this emissions unit in the separate columns provided.

NOTE: If other emissions units use the same release point, also report this information on the appropriate forms for those units.

How to delete a monitor?

Delete a monitor by entering a date in Decommission Date (A.13.h). Use this when you are removing the monitor permanently.

How to replace a monitor?

If the monitor was replaced in kind with a new model, enter the new installation date and replace the information on lines b-i as necessary. Do not enter a "decommission date"—the MassDEP database tracks the change to the monitor equipment automatically.

a. Monitor type:

Check the appropriate box for the type of monitoring device. Check only one for each monitor (use another column if there are other types of monitors on the release point.)

- CEMS
- Opacity
- Fuel flow meter
- Time recorder
- Temperature recorder
- Pressure
- Other: If other is checked then Describe "other" is required

How do I use CEM data?

If you use CEMs to determine annual emissions, report the CEMS emissions value in Section B.3Emissions on this form. For each pollutant where the Calculation Method in Section B.3 Emissions is identified as CEMS, then that pollutant also needs to be identified as a montored pollutant in Question A.13.I

b. Manufacturer:

The name of the manufacturer of the monitoring equipment attached to the stack and the model number

c. Model number:

assigned by the manufacturer.

d. Monitor ID #:

The unique ID number/name that the facility has assigned to this piece of monitoring equipment.

e. Installation date:

The date on which the unit became operational. Do not leave blank. Estimate if unknown.

f. DEP approval #:

MassDEP approval number (most recent) from your permit or plan approval.

g. DEP approval date:

(mm/dd/yyyy)

h. Decommission date: Enter a date here only if the monitor is being permanently removed and not just replaced. (mm/dd/yyyy)

Whether or not this device are attached to the monitor.

i. Recorder?

Yes or No check box

j. Audible alarm?

Yes or No check box

k. Data System? Whether or not a data system that continuously logs monitoring data for future review is attached to the

monitor.

Yes or No check box

What is a "data system"?

A data system continuously captures monitoring data for future review and analysis.

I. Monitored pollutants:

Check all contaminants that are measured by the monitoring unit

PM10 PM2.5 SO2 CO VOC NO2 NH3 Mercury Oxygen CO2 H2S HCL Opacity CH4

NO2 SF6 Refrigerants-CO2e

Other: List any substances not already listed on the form that you are required to monitor per your

plan approval, operating permit, or applicable regulation. **NOTE**: Only one "Other" is available for each monitor.

B. FUELS AND EMISSIONS (PARENT FORM: DEP FUEL #1)

NOTE: In general, the information requested below will be pre-populated from MassDEP's Air Quality database. However, certain data submitted to MassDEP in a different format (i.e. CRIS) was not historically stored in Air Quality database. That data will not appear on the electronic forms until it has been submitted in this format.

With certain exceptions, which will be noted, the preparer can edit any information listed below.

1. Waste Type Description:

Is GHG emissions reporting required for this fuel, waste or raw material/finished product? (in SRGHG package)

Check the appropriate box, yes or no. If Yes, then complete Section B. Otherwise, validate this form; no GHG emissions' reporting is required for this Section B. However, SR emissions reporting is still required.

NOTE: if the response is Fuel for question "Is this fuel, waste, or raw material/finished product an input, output or fuel?", then the response to this question is Yes.

Is this fuel, waste, or raw material/finished product an input, output or fuel?

Check the appropriate box: input, output or fuel.

NOTE: Raw Material (or incinerator waste) would be considered an **Input**; finished product would be considered an **Output**, and the "material" used in a fuel burning device would be considered **Fuel**. However, if you use a "fuel" as part of your process operation (and not associated with combustion equipment), this "fuel" would be considered an **Input** or if the "fuel" is being stored and you are required to report breathing loss and/or transfer loss, then this "fuel" would be considered an **Output**.

For example: Using a coating line with natural gas dryers, depending on how you reported the coating operation, the coating(s) used (i.e. ink, paint, dye) would be considered an **Input** and the material that is coated (i.e. fabric, metal parts, cardboard, etc.) would be considered an **Output**. The natural gas used by the dryer would be considered a **Fuel**.

NOTE: If this information is inaccurate, please contact us at BAW.eDEP@state.ma.us

Add a New Fuel:

IMPORTANT For an Incinerator, the check box is locked if the response is 3 to the question – "Number of fuels for this unit (previous records)". Facility is allowed to add a new secondary chamber fuel to the EU if Number of fuels for this unit (previous records): 2.

NOTE: If this is a new AP3 Parent Form, ("parent" form includes Section A), then "Add a New Fuel" must be checked so facility can report primary chamber information (including GHG emissions) as Fuel #2 and report secondary chamber information (including GHG emissions) as Fuel #3.

When to not check "Add a new fuel" box

Any additional fuels will automatically appear when you error check this form so you do not need to check this field to make additional fuels appear if they have been reported on already in a previous submittal. You can see the number of fuels already existing for this unit in the field: "Number of fuels for this unit (previous records)". This check box is only for NEW fuels which you have never reported before.

Delete this fuel:

IMPORTANT: For an Incinerator, this field is locked. If the type of waste has changed, you must change the SCC in Question B.1.a to reflect the waste type or change the waste type by selecting a different response from the drop down list of waste types in question B.1.b.

For an incinerator, you MUST decommission the emission unit by entering a response to A.3.b.

Number of fuels for this unit (previous records):

This field identifies the number of existing fuels that are associated with this EU.

This information will be provided by the system. For new emission units: This question is not applicable.

How does eDEP handle multiple fuels?

In eDEP, a separate Section B form is automatically created for each additional fuel/material/product on record based on the "Number of fuels for this unit (previous records)". Before checking the box at the right to make a change, please note the following:

- 1) If you need to add a new fuel and "Number of fuels for this unit...." is greater than 1, wait to see the other fuels before checking this box, or
- 2) If you ceased using this fuel and "Number of fuels for this unit...." is 1, do not check "delete this fuel" unless you also check "Add a new fuel"; this form requires one active fuel to function properly.

NOTE: "Add a New Fuel" and "Delete this fuel" are present in all Section B forms

1. DEP Fuel #:

This is a unique number assigned by MassDEP that allows the system to recognize this fuel associated with this emission unit on future reports.

If this is a new Fuel, the field is blank and locked – MassDEP will assign this number. If this is an existing Fuel, the information will be pre-populated for existing fuels associated with this emission unit.

Can I change the DEP fuel identifier?

This ID number is a MassDEP assigned number and cannot be changed

a. Source Classification Code (SCC)

The SCC is an EPA code for the type of unit operation or production process or fuel. EPA's AP-42 (https://www.epa.gov/chief) contains the codes for each type of process, as well as, emission factors that can, in certain circumstances, be used to calculate emissions for each unit.

SCC Description

If the SCC is pre-populated, the SCC Description will also be pre-populated. If you add or changed the SCC, the system will automatically fill in the SCC Description when the form is validated.

How does eDEP use Source Classification Codes (SCC)?

SCC are standard codes EPA uses to identify different operations/activities and their associated emissions factors, if available. The SCC you select will be used to supply the emission factors for the automatic emissions calculation feature included in the eDEP system and to help analyze the data. The SCC also identifies the Units per hour which are used for your response to B.2.b: Annual usage, and the B.3 Emission Factor Units (in pounds per unit). The list of SCC's used in eDEP can be found at: https://www.mass.gov/guides/massdep-source-registration

If the SCC listed on the form is wrong, enter the correct code.

If the form will not accept the SCC you are entering, contact MassDEP at BAW.eDEP@state.ma.us

b. Fuel/Material/Waste Type:

If this is a new Emission Unit, the field is blank. Choose your response from one of the values present in the drop down list of incinerator waste types: BODY, LIQUID WASTE; MEDICAL WASTE; METAL, REFUSE; REFUSE DERIVED FUEL; SLUDGE, SOLID WASTE OR VOCS

NOTE: For an incinerator, if the response is not "Fuel" to question B.1: *Is this fuel, waste, or raw material/finished product an input, output or fuel?*, then a drop down list of incinerator waste types is available to choose from if the SCC value for this field is not an appropriate response.

EPA material type code help text

Material Type Code is a field required by US EPA for the National Emissions Inventory. In most cases, your SCC response will autofill this field but if the response is not appropriate, you can change the response by selecting from this list. (The complete list of EPA Material Type Codes can be found on the SR website: References You Will Need.)

c. Do you have fuel or usage restrictions?

These would have been expressed in a regulation, the plan approval you received from MassDEP for this emission unit or one that applies to several emission units. Check the appropriate yes or no box. If No, then skip to Question B.2.

NOTE: Some emission units will not have plan approvals because:

- 1. they are below the threshold for which a plan approval or permit is required;
- 2. they were installed before the effective date of the regulation; or
- 3. they were "permitted by rule" installed in accordance with the provisions of 310 CMR 7.03: U Plan Approval Exemption.

What if there are multiple raw material or finished product or fuel restrictions?

If the same restrictions also apply to other emission units, report the restrictions on those emission unit forms, as well. Cite the most recent raw material use or finished product restriction applicable to the raw material use or finished product associated with this emission unit. The most recent raw material or finished product restriction may be found in a regulation, an approval that applies only to this emission unit, or one that applies to several emission units, or the facility as a whole.

What if a restriction applies to multiple units?

If a restriction applies to multiple units then list it here and on the forms for each other unit to which it applies. Enter the most recent approval number for the restriction.

d. DEP approval number for restrictions:

Only complete if a plan approval is required: State the approval number for the plan approval that allowed the installation of the emission unit. This number is found on the plan approval letter sent by MassDEP. Cite either plan approval or regulation.

e. Annual material/finished product or fuel restriction – if none, leave blank:

Provide the maximum amount of raw material/finished product, you are allowed to use in a year per your permit, and the units of measurement from the drop-down menu. Obtain this from your plan approval letter or regulation

Quantity (amount or hours):

If your units are not on the drop-down menu, email BAW.eDEP@state.ma.us.

Units:

f. Short term raw material/finished product/fuel restriction— if none, leave blank:

Quantity(amount or hours):

Provide the maximum amount of raw material/finished product, you are allowed to use over the short-term period specified in your plan approval. Obtain this from your plan approval letter or regulation..

Units:

Choose the units of measurement from the drop down list. If your units are not on the drop-down menu, email BAW.eDEP@state.ma.us

Per:

Check the appropriate box for the time period: Month, Week, Day or Hour.

2. Annual usage:

a. Total actual amount used for year of record

The actual amount of fuels/materials/products used in this emission unit during the calendar year being reported. Enter "0" if fuels/materials/products was not used in the year of record.

IMPORTANT - Remember you may need to convert the Amount so that the value is expressed for the units associated with the chosen SCC. For example, if the chosen SCC expresses the units in 1000 gallons then 72 gallons would be entered as 0.072 1000 gallons.

b. Units

This response is determined based on the SCC. If the SCC is pre-populated, the Units will also be pre-populated. If you add or changed the SCC, the system will automatically fill in the Units when the form is validated.

Units help text

Units MUST match the units specified for the SCC. If the units for your data do not match the units for the SCC, you need to convert your values to units that match the SCC or select a different SCC.

This information will be provided by the system based on your last submittal. For new emission units: This question is not applicable

Prior year (Annual usage)

TIP: Compare the annual usage from prior year of record to the current year's usage as a check. If they are orders of magnitude off, check the units.

B. SOURCE REGISTRATION EMISSIONS (PARENT FORM: DEP FUEL #1)

Provide the following information for all pollutants emitted by the emission unit.

3. Total emissions for this waste type only – tons per year:

What are total emissions for this material/finished product?

This section records the total actual, unrestricted potential and permitted (allowable) emissions for the year covered by this report (the year of record) of each pollutant that is attributed to this raw material or finished product for the emission unit(s) reported on this AP-2. Please see the Appendix C for detailed information on calculating emissions.

PM10<mark>-FIL PM2.5<mark>-FIL PM-CON</mark> SO2 PB VOC NH3 CO NO2 Specify other pollutant</mark>

CALCULATIONS: READ FIRST

The emissions in Source Registration should be as accurate as possible, neither under- or overestimated. Please use engineering judgement to select the best information available for calculating your facility's emissions. The best information comes from CEMS, then from stack testing. If neither of these are available, use equipment_specific emission factors from the manufacturer (where such manufacturer's numbers represent actual performance rather than an emission limit the unit is guaranteed to meet) or_EPA factors when unit-specific data is not available. Ordinarily, permit limits should not be used to estimate actual emissions. See Appendix C for guidance on calculating your own emissions.

When is NH3 emissions required?

NH3 emissions is required if APC Device is SNCR (SELECTIVE NONCATALYTIC REDUCTION) OR SCR (SELECTIVE CATALYTIC REDUCTION)

PM FILTERABLE VS. PM CONDENSABLE

MassDEP reports PM emissions to EPA as filterable. Therefore, if you calculate your own emissions, **YOU SHOULD REPORT ONLY FILTERABLE PM10 AND PM2.5**.

Do NOT add in condensable emissions. Do not use emission factors for primary PM (e.g., PM2.5-PRI) which includes both filterable and condensable emissions. EPA generally labels emission factors for filterable PM as -FIL (e.g., PM2.5-FIL) whereas primary PM emissions factors are labeled –PRI (e.g., PM2.5-PRI).

Calculate condensable emissions separately

Actual for previous year

This information will be provided by the system. For a new emission unit: This information is not applicable.

What are "actual emissions"?

Actual emissions are an estimate of the total tons of each pollutant emitted by the emission unit associated with each raw material/finished product/fuel during the year covered by the report (the year of record). For Process (AP-2) forms, eDEP will not auto-calculate the actual emissions. Please see Appendix C for more detailed information on calculating actual emissions.

Actual for year of record:

Calculate this information. The actual emissions for the calendar year being reported. **You must calculate your Actual Emissions**. (see <u>Appendix C</u>: Example Calculations.)

NOTE: In many cases, AP-42/FIRE emission factors found in EPA's website (http://www.epa.gov/ttn/chief/efpac/index.html) can be used to estimate actual emissions.

CAUTION: The emissions in Source Registration should be as accurate as possible, neither under- or overestimated. Please use engineering judgement to select the best information available for calculating your facility's emissions. The best information comes from CEMS, then from stack testing. If neither of these are available, use equipment_specific emission factors from the manufacturer (where such manufacturer's numbers represent actual performance rather than an emission limit the unit is guaranteed to meet) or_EPA factors when unit-specific data is not available. Ordinarily, permit limits should not be used to estimate actual emissions. See Appendix C for guidance on calculating your own emissions.

How do I use CEMs data?

If you use CEMs to determine annual emissions, report the CEMS emissions value on this form.

IMPORTANT: If you use CEMS data for your actual emissions, you must provide the CEMs equipment information in question A.15 and identify "Continuous Emission Monitoring System (CEMs)" for Calculation Method.

Potential Emissions (in Tons)

Calculate this information. (See Appendix C: Example Calculations.)

The definition of Potential Emissions in 310 CMR 7.00 takes into account the restrictions of a plan source's plan approval(s), approved emission control plan(s), operating permit, certification(s), restricted emission status, notification(s) and applicable regulations. If you have a restriction that meets one of these conditions for this emission unit AND raw material/finished product/fuel, you may list that pollutant's potential emissions number here AND in the next section. However, if this emission unit AND raw material/finished product/fuel does not have a restriction, the number entered here should be based on maximum uncontrolled emissions

Potential emissions are the maximum uncontrolled emissions assuming the emission unit operates at maximum capacity 24 hours per day, 7 days a week, 52 weeks a year (8760 hours per year)..

NEW You may apply controls and restrictions to calculation the potential emissions only under the following conditions (see 310 CMR 7.00 Definitions, potential emissions): any physical or operational limitation on the capacity of the unit to emit any air contaminant or pollutant, including air pollution control equipment and/or restrictions on hours of operation, or on the type or amount of material combusted, stored or processed, shall be treated as part of the design **only if** the limitation is specifically stated in the facility's or stationary source's plan approval(s), approved emission control plan(s), operating permit, certification(s), restricted emission status, notification(s) and applicable regulations, or in the case of de minim is sources, in records established and maintained at the facility pursuant to 310 CMR 7.02(2)(b).

ENTER "0" if the unit was decommissioned prior to this year of record because the unit did not represent potential emissions during the year of record.

IMPORTANT: For each pollutant where your potential emission is based on controls and/or restrictions, you MUST also update the field "maximum allowed emissions – annual" with this same value.

What are potential emissions?

The emissions resulting from the maximum operation of the equipment irrespective of any regulatory restrictions. (8760 hrs X Max Firing Rate X Emission Factor)

NEW: you may apply controls and restrictions to calculation the potential emissions only under the following conditions (see 310 CMR 7.00 Definitions, potential emissions): any physical or operational limitation on the capacity of the unit to emit any air contaminant or pollutant, including air pollution control equipment and/or restrictions on hours of operation, or on the type or amount of material combusted, stored or processed, shall be treated as part of the design **only if** the limitation is specifically stated in the facility's or stationary source's plan approval(s), approved emission control plan(s), operating permit, certification(s), restricted emission status, notification(s) and applicable regulations, or in the case of *de minim is* sources, in records established and maintained at the facility pursuant to 310 CMR 7.02(2)(b).

IMPORTANT: For each pollutant where your potential emission is based on controls and/or restrictions, you MUST also update the field "maximum allowed emissions – annual" with this same value.

Emission factor:

Provide this information.

NOTE: In many cases, AP-42/FIRE emission factors found in EPA's website (https://www.epa.gov/chief) can be used to estimate actual emissions.

in pounds per unit (EF Units):

NEW - If you are calculating the emissions yourself, the Emission factor units must match the chosen SCC. The unit selected must match the unit present in the response to B.1.e and B.1.g.

What are emission factors (EF)?

Emissions factors are the **amount of pollution generated per unit of operation**, uncontrolled based on the SCC. For example, for coating operations, the emission factor is often expressed as lb emitted per gallon of coating applied. Therefore, total tons of emissions per year are obtained by the formula [EF in lb/raw material] x [raw material]finished product/fuel usage] / [2000 lb per ton] = TPY of emissions.

When you calculate your own emissions, you must enter the emission factor that you used. .

CAUTION: The emissions in Source Registration should be as accurate as possible, neither under- or overestimated. Please use engineering judgement to select the best information available for calculating your facility's emissions. The best information comes from CEMS, then from stack testing. If neither of these are available, use equipment_specific emission factors from the manufacturer (where such manufacturer's numbers represent actual performance rather than an emission limit the unit is guaranteed to meet) or_EPA factors when unit-specific data is not available. Ordinarily, permit limits should not be used to estimate actual emissions. See Appendix C for guidance on calculating your own emissions.

Calculation Method

NEW: If the system is calculating the actual and potential emissions for the pollutant, use "USEPA Emission Factor (pre-control) plus Control Efficiency"

If you are calculating the actual and potential emissions for the pollutant yourself, you can choose from the following in a dropdown list:

DESCRIPTION
Continuous Emission Monitoring System
Engineering Judgment
Manufacturer Specification
Material Balance
Other Emission Factor (pre-control) plus Control Efficiency
S/L/T Emission Factor (pre-control) plus Control Efficiency
Site-Specific Emission Factor (no Control Efficiency used)
Site-Specific Emission Factor (pre-control) plus Control Efficiency
Stack Test (no Control Efficiency used)
Stack Test (pre-control) plus Control Efficiency
Trade Group Emission Factor (no Control Efficiency used)
Trade Group Emission Factor (pre-control) plus Control Efficiency
Vendor Emission Factor (no Control Efficiency used)
Vendor Emission Factor (pre-control) plus Control Efficiency

When to enter maximum allowed emissions?

Complete the "maximum allowed emissions" fields if there is an annual or short-term emission limitation applicable to the raw material/finished product/fuel expressed in either a MassDEP approval or a regulation. Be sure to enter the approval number or regulation under "Basis" below.

NOTE: If you calculated your potential emissions using controls and/or restrictions (rather than using the eDEP calculation feature or entering max capacity uncontrolled for potential), you MUST also enter a "maximum allowed emissions – annual" and the values for potential and maximum allowed annual emissions must be the same.

Maximum allowed emissions – annual:

Provide this information if there is a plan approval or a regulation for this raw material /product (as opposed to for the emission unit as a whole.)

Maximum allowed emissions - short term:

Maximum short term emissions allowed pursuant to your permit or plan approval or regulatory restriction based on a short term period of day, hour, week, month or Million BTUS. Select the appropriate response from the drop down list

Short term period

Basis- DEP approval number or regulation:

This field is required if maximum allowed emissions values are present. Provide either the regulatory citation if the emission unit was installed through a permit by rule or the plan approval number. If a plan approval is not required: Cite the regulation under which the equipment was installed.

NOTE: Some emission units will not have plan approvals because:

- 1. they are below the threshold for which a plan approval or permit is required;
- 2. they were installed before the effective date of the regulation; or
- 3. they were "permitted by rule" installed in accordance with the provisions of 310 CMR 7.03: U Plan Approval Exemption.

If a plan approval established emission limits for the pollutant, write the approval number t. This number is found on the letter sent by MassDEP.

If a regulation established emission limits for the pollutant, cite the regulation.

3. Ozone season emissions – May 1 through September 30:

Ozone season calculation options:

This form automatically calculates an estimate of the ozone season emissions for this emission unit using the data you provided on ozone season operation (Questions A.11a through A.11.c) and some simplifying assumptions. If you wish to report a more precise value based on your own calculations and data, check the box below the blank lines at B.3.a. and B.3.b.

NOTE: In the SRGHG package, this guestion will be present in Section D Child Form.

a. Typical day VOC emissions – pounds per day

b. Typical day NOx emissions – pounds per day

The system will calculate this information based on data you supplied on the form

NOTE1: If you have more than one raw material/finished product/fuel for this emission unit, you will be required to complete the ozone season emissions in Section D, after you have entered the throughput and emissions data for each of your material/ product/fuel in Section B.

NOTE2: In the SRGHG package, when only one raw material/finished product/fuel is present for this emission unit, this question is will be found after the GHG emissions.

Check to enter your own values

NOTE: The form will estimate the ozone season emissions for you. However, you may enter your own values by checking the boxes

What if I have more than one raw material/finished product/fuel?

NOTE: If you have more than 1 raw material/finished product/fuel, this space for the ozone season emissions on the "parent" form is invisible – you will be provided with a space for entering ozone season emissions in Section D, after you have entered the throughput and emissions data for each of your raw materials/finished products/fuels for this unit.

NOTE: You must click [Error Check] now to move on to the next part of the form or to create additional Section B's and then to create Section D: Total Emissions for Emission Unit. The system will force you to make any necessary corrections.

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>I. To continue your work on this emission unit, click on the <AQ AP3 Section B (or Section D) form> you see listed under the form, you were just working on.

B. GREENHOUSE GAS EMISSIONS (PARENT FORM: DEP FUEL #1) IN SRGHG PACKAGE

4. Total GHG emissions for this fuel only in tons per year:

Provide the following information for all pollutants emitted by the emission unit for this fuel only

CO2 CH4 N2O SF6 Refrigerants-CO2e CO2e-CO2 CO2e-CH4 CO2e-N2O CO2e-SF6 CO2e-Refrigerants

Other GHG Pollutant CO2e- Other GHG Pollutant

CALCULATIONS: READ FIRST

The form will automatically calculate the actual emissions from your annual throughput and EPA default emission factors. To calculate your own emissions, check the box next to each pollutant's name (eDEP will calculate the emissions for any pollutant where you do not check the box).

The form will automatically calculate the Carbon Dioxide Equivalent (CO2e) for each specific pollutant and the Total CO2e based on the actual emissions values; manual calculating of these values is not an option.

Why you may want to calculate your own emissions values?

The GHG emissions should be as accurate as possible, neither under- or overestimated. Please use engineering judgement to select the best information available for calculating your facility's emissions. The best information comes from CEMS, then from stack testing. If neither of these are available, use equipment_specific emission factors from the manufacturer (where such manufacturer's numbers represent actual performance rather than an emission limit the unit is guaranteed to meet) or EPA factors when unit-specific data is not available. Please see Appendix C for more guidance on calculating your own emissions

What are "actual emissions"?

Actual emissions are an estimate of the total tons of each pollutant (gas) emitted by the emission unit during the year covered by the report (the year of record). eDEP will calculate the actual emissions for each fuel, unless you have checked the box next to the pollutant.

NOTE: Please see Appendix C for more detailed information on calculating actual emissions.

Actual (in Tons) for previous year

For repeat filers: This information will be provided by the system. For new emission units: This question is not applicable.

Actual (in Tons) for year of record

Put a check in the appropriate box if you choose to calculate the emissions from this fuel yourself. Otherwise the system will calculate this information for each pollutant except for those that you put a check in the box.

NOTE: although actual emissions that are less than 0.0001 are rounded to zero, when the form is validated; all values greater than or equal to zero are used to calculate the CO2e amount for each pollutant. In the validation process, the CO2e value is calculated. Then if the *Actual (in Tons) for year of record* is less than 0.0001, this value is changed to zero

What are emission factors?

Emissions factors are the amount of pollution (gas) generated per unit of operation. For fuels, total tons of emissions are obtained by multiplying [EF in #/fuel unit] x [fuel usage/year] x [conversion to tons (1 Ton/2000#)] = Tons per year (TPY) of emissions.

If you allow eDEP to calculate your emissions, this field will be auto-filled with EPA's default emission factors, if available, based on the SCC chosen for this emission unit and fuel combination. If you choose to calculate your own emissions, you must enter the emission factor that you used and select the Calculation Method from the drop down list.

Because they are generic, EPA's emission factors are not the best choice in all situations. They may overstate emissions for facilities. See Appendix C for more information about using emissions factors to calculate emissions.

Emission factor (EF)

Provide this information only if you are calculating the emissions yourself, otherwise, the emission factor is provided based upon the SCC chosen for this emission unit and fuel combination.

What EF and EF units should be used to report SF6 and Refrg-CO2e emissions?

Neither SF6 nor Refrg-CO2e require a response in the fields Emission factor (EF) and in pounds per unit. These fields should auto-fill blank and be locked.

in pounds per unit (EF units):

If you are calculating the emissions yourself, the EF units, listed in pounds per unit, must match the chosen SCC – you must pick the unit from the drop-down menu associated with the chosen SCC. The unit selected should match the unit present in the response to B.2.b.

Calculation Method

If the system is calculating the actual emissions for the pollutant, use GHG-EPA EF: EPA GHG Emission Factor.

If you are calculating the actual emissions for the pollutant yourself, you must choose from the following in a drop down list:

CODE	DESCRIPTION
GHG-CEMS	Continuous Emission Monitoring System Data
GHG-User EF	User Provided GHG Emission Factor
GHG-MatlBalance	Emissions Based on Material Balance
GHG-TCR EF	General Reporting Protocol EF6

NOTE: For SF6, the Calculation Method should auto-fill with GHG-MatlBalance and the field will be locked.

Specify General Reporting Protocol EF

If you select GHG-TCR EF from the Calculation Method drop down list, then you need to select the type of Default Emission Factor from this drop down list.

BAW Source Registration &/or Greenhouse Gas Instructions Incinerator (AP-3) Emission Unit Form (for SRGHG Package) Page 148 of 230 September 2018

⁶ The Climate Registry's General Reporting Protocol and emission factors are available on the TCR website (https://www.theclimateregistry.org/tools-resources/reporting-protocols/general-reporting-protocol/)

CO2e for previous year For repeat filers: This information will be provided by the system.

For new emission units: This question is not applicable.

CO2e for year of record Using the Global Warming Potential values stored in our system, the form will automatically calculate the

Carbon Dioxide Equivalent (CO2e) of each pollutant where the actual emissions value is greater than zero.

NOTE: although actual emissions that are less than 0.0001 are rounded to zero, when the form is validated; all values greater than or equal to zero are used to calculate the CO2e amount for each pollutant. In the validation process, the CO2e value is calculated. If the *Actual (in Tons) for year of record* is less than 0.0001, this value is

changed to zero

Total CO2e emissions The form will automatically calculate the Total Carbon Dioxide Equivalent (CO2e) based on the calculated CO2e

of each pollutant where their actual emissions value is greater than zero.

CO2e for previous year This information will be provided by the system.

For new emission units: This question is not applicable.

CO2e for year of record

The form will automatically calculate the Total Carbon Dioxide Equivalent (CO2e) from the Carbon Dioxide

Equivalent (CO2e) of each pollutant where the actual emissions value is greater than zero.

C. NOTES AND ATTACHMENTS (FOUND ON PARENT FORM ONLY)

1 Notes: Information that will help DEP understand your submission. . If an attachment will be associated with this form,

identify any additional, explanatory material that you are choosing to submit

This section is to provide any additional information for any of your responses for this EU, including any child forms. If you are including a document, identify any explanatory material the facility is choosing to submit along

with this form.

2. Attachments If the material can be sent electronically, check the box for the appropriate form.

Check this box if additional information will be included as an attachment. If the additional material can be sent electronically (20 MB document), check the box on the appropriate form. You will be prompted just before Step

2 for the attachment.

NOTE: You must click [Error Check] now to move on to the next part of the form or to create additional Section B's and then to create Section D: Total Emissions for Emission Unit. The system will force you to make any necessary corrections.

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>I. To continue your work on this emission unit, click on the <AQ AP3 Section B (or Section D) form> you see listed under the form, you were just working on.

B. FUELS AND EMISSIONS (SECTION B CHILD FORMS: (DEP FUEL# 2) PRIMARY CHAMBER INFORMATION)

NOTE: In general, the information requested below will be pre-populated from MassDEP's Air Quality database. However, certain data submitted to MassDEP in a different format (i.e. CRIS) was not historically stored in Air Quality database. That data will not appear on the electronic forms until it has been submitted in this format.

With certain exceptions, which will be noted, the preparer can edit any information listed below.

Is GHG emissions reporting required for this fuel, waste or raw material/finished product? (in SRGHG package)

Check the appropriate box, yes or no. If Yes, then complete Section B. Otherwise, validate this form; no GHG emissions' reporting is required for this Section B.

NOTE: if the response is Fuel for question "Is this fuel, waste, or raw material/finished product an input, output or fuel?", then the response to this question is Yes.

BAW Source Registration &/or Greenhouse Gas Instructions Incinerator (AP-3) Emission Unit Form (for SRGHG Package) Page 149 of 230 September 2018

Is this fuel, waste, or raw material/finished product an input, output or fuel?

Check the appropriate box: input, output or fuel.

NOTE: Raw Material (or incinerator waste) would be considered an **Input**; finished product would be considered an **Output**, and the "material" used in a fuel burning device would be considered **Fuel**. However, if you use a "fuel" as part of your process operation (and not associated with combustion equipment), this "fuel" would be considered an **Input** or if the "fuel" is being stored and you are required to report breathing loss and/or transfer loss, then this "fuel" would be considered an **Output**.

For example: Using a coating line with natural gas dryers, depending on how you reported the coating operation, the coating(s) used (i.e. ink, paint, dye) would be considered an **Input** and the material that is coated (i.e. fabric, metal parts, cardboard, etc.) would be considered an **Output**. The natural gas used by the dryer would be considered a **Fuel**.

NOTE: If this information is inaccurate, please contact us at BAW.eDEP@state.ma.us

1. DEP Fuel #:

This is a unique number assigned by MassDEP that allows the system to recognize this fuel associated with this emission unit on future reports.

If this is a new Fuel, the field is blank and locked – MassDEP will assign this number. If this is an existing Fuel, the information will be pre-populated for existing fuels associated with this emission unit.

Can I change the DEP fuel identifier?

This ID number is a MassDEP assigned number and cannot be changed

a. Source Classification Code (SCC)

The SCC is an EPA code for the type of unit operation or production process or fuel. EPA's AP-42 (https://www.epa.gov/chief) contains the codes for each type of process, as well as, emission factors that can, in certain circumstances, be used to calculate emissions for each unit.

SCC Description

If the SCC is pre-populated, the SCC Description will also be pre-populated. If you add or changed the SCC, the system will automatically fill in the SCC Description when the form is validated.

How does eDEP use Source Classification Codes (SCC)? SCC are standard codes EPA uses to identify different operations/activities and their associated emissions factors, if available. The SCC you select will be used to supply the emission factors for the automatic emissions calculation feature included in the eDEP system and to help analyze the data. The SCC also identifies the Units per hour which are used for your response to B.2.b: Annual usage, and the B.3 Emission Factor Units (in pounds per unit). The list of SCC's used in eDEP can be found at: https://www.mass.gov/guides/massdep-source-registration

If the SCC listed on the form is wrong, enter the correct code.

If the form will not accept the SCC you are entering, contact MassDEP at BAW.eDEP@state.ma.us

b. Fuel/Material/Waste Type:

This response is determined based on the SCC. If the SCC is pre-populated, the fuel type will also be pre-populated. If you added or changed the SCC, the system will automatically fill in the fuel type when the form is validated.

d. Is this a Primary chamber auxiliary burner? Check the appropriate box, yes or no. If Yes, then this Section B information is associated with the primary chamber auxiliary burner. If No, then this Section B information is associated with the secondary auxiliary burner

NOTE: This field is only present on the Section B Child Forms.

NOTE: for an existing Incinerator, DEP Fuel#2 is associated with the primary auxiliary burner and DEP Fuel#3 is associated with the secondary auxiliary burner.

IMPORTANT: If the chamber is not identified correctly, contact MassDEP at BAW.eDEP@state.ma.us

Temperature - degrees in Fahrenheit

Put the actual and permitted maximum operating temperature on the "Upper" lines and the minimum operating and permitted temperature on the "Lower" lines for both the primary and secondary chambers.

Primary Chamber

a. Operating rangeb. Permitted range:LowerUpperUpper

Retention time in seconds

Put the actual and permitted maximum operating retention times in seconds on the "Upper" lines and the minimum operating and permitted retention times on the "Lower" lines for both the primary and secondary chambers.

NOTE: this guestion is only associated with the Secondary Chamber.

Chamber auxiliary burner

a. Type of burner: Check the appropriate box, provide a description if other.

Rotary Traveling grate Air atomizer
Mech. Atomizer Hand fired Steam atomizer

Other: specify "other" burner type

b. Burner manufacturer Firm that built the unit, information can be usually found on metal nameplate on unit.

Do not leave blank: enter UNKNOWN, if unknown.

c. Burner model number Information can be found on metal nameplate on unit.

Do not leave blank: enter UNKNOWN, if unknown.

d. Maximum rating MMBtu/hr

Maximum rated capacity regardless of permit limitations. Information can be found on metal nameplate on unit. Do not leave blank.

Tip: The manufacturer's maximum input rating is located on a metal nameplate on the unit. It is usually expressed in Btu per hour or gallons per hour for engines. If the unit is not an engine and burning oil, to convert the value from gallons to Btu use the appropriate Oil Heat Values found in <u>Table C.1.3-2</u>. Identify the appropriate Heat Value BTU per gallon based on the Fuel Type and Sulfur Content % by weight found in the chart. Remember to check that the maximum input rating is in **Million Btu** per hour (MMBtu/hr).

e. Sulfur content for oils (Acceptable Range 0 – 2.2):

The percentage of sulfur by weight for oil, only.

TIP: This is determined by analysis of a fuel sample or can be found on the receipt from your fuel dealer.

f. Maximum hourly fuel rate for all firing burners:

The maximum fuel that all burners in this emission unit can fire in one hour, and the units of measurement from the drop-down menu (e.g., gallons per hour, tons per hour, million cubic feet per hour, etc.) is based on the chosen SCC Code.

Amount

IMPORTANT: You may need to convert the Amount so that the value is expressed for the units associated with the chosen SCC. For example, if the chosen SCC expresses the firing rate units in 1000 gallons/hr then 72 gallons/hr would be entered as 0.072 1000 gallons/hr.

Units per hour

This response is determined based on the SCC. If the SCC is pre-populated, the Units per hour will also be pre-populated. If you added or changed the SCC, the system will automatically fill in the Units per hour when the form is validated.

g. Do you have fuel or usage restrictions?

These would have been expressed in a regulation, the plan approval you received from MassDEP for this emission unit or one that applies to several emission units. Check the appropriate yes or no box. If No, then skip to Question 23.

If the same restrictions also apply to other emission units, report the restrictions on those emission unit forms, as well.

Cite the most recent fuel use restriction applicable to the fuel as it is used in this emission unit. The most recent fuel use restriction may be found in a regulation, an approval that applies only to this emission unit, or one that applies to several emission units, or the facility as a whole.

h. DEP approval number for fuel restrictions: most recent for this fuel. Obtain this from your plan approval letter. Cite either plan approval or regulation.

What if the restriction is mentioned in multiple approvals?

Enter the most recent approval number for the restriction.

i. Annual usage restriction for this fuel:

Quantity

Provide the maximum amount of fuel you are allowed to use in a year per your permit and the units of measurement from the drop down list, or the maximum amount of time you are allowed to use the unit in a year per your permit and the unit of measurement. Obtain this from your plan approval letter or regulation.

Units

Choose the units of measurement from the drop down list. If your units are not on the drop-down menu, email BAW.eDEP@state.ma.us

What if the restriction applies to multiple units?

If a restriction applies to multiple units then enter that same quantity here and on the forms for each other unit to which it applies.

j. Short term fuel usage restriction for this fuel:

Provide the maximum amount of fuel or time you are allowed to use over the short-term period specified in your plan approval. Obtain this from your plan approval letter or regulation.

Quantity:

Choose the units of measurement from the drop down list. If your units are not on the drop-down menu, email BAW.eDEP@state.ma.us

Per:

Units:

Check the appropriate box for the time period: Month, Week, Day or Hour.

2. Annual usage:

a. Total actual amount used for year of record

The actual amount of fuels/materials/products used in this emission unit during the calendar year being reported. Enter "0" if fuels/materials/products was not used in the year of record.

IMPORTANT - Remember you may need to convert the Amount so that the value is expressed for the units associated with the chosen SCC. For example, if the chosen SCC expresses the units in 1000 gallons then 72 gallons would be entered as 0.072 1000 gallons.

b. Units

This response is determined based on the SCC. If the SCC is pre-populated, the Units will also be pre-populated. If you add or changed the SCC, the system will automatically fill in the Units when the form is validated.

Units help text

Units MUST match the units specified for the SCC. If the units for your data do not match the units for the SCC, you need to convert your values to units that match the SCC or select a different SCC.

Prior year (Annual usage)

This information will be provided by the system based on your last submittal. For new emission units: This question is not applicable

TIP: Compare the annual usage from prior year of record to the current year's usage as a check. If they are orders of magnitude off, check the units.

NOTE: You must click [Error Check] to move on to the next form in your package. The system will force you to make any necessary corrections.

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To continue your work on this package, click on the next form you want to work on or click [Next] found at the end of the <Transaction Overview page>.

B. GREENHOUSE GAS EMISSIONS (DEP FUEL# 2) PRIMARY CHAMBER (IN SRGHG PACKAGE)

3. Total emissions for this fuel only in tons per year:

Provide the following information for all pollutants emitted by the emission unit for this fuel only

CO2 CH4 N2O SF6 Refrigerants-CO2e CO2e-CO2 CO2e-CH4 CO2e-N2O CO2e-SF6 CO2e-Refrigerants

Other GHG Pollutant CO2e- Other GHG Pollutant

CALCULATIONS: READ FIRST

The form will automatically calculate the actual emissions from your annual throughput and EPA default emission factors. To calculate your own emissions, check the box next to each pollutant's name (eDEP will calculate the emissions for any pollutant where you do not check the box).

The form will automatically calculate the Carbon Dioxide Equivalent (CO2e) for each specific pollutant and the Total CO2e based on the actual emissions values; manual calculating of these values is not an option.

Why you may want to calculate your own emissions values?

The GHG emissions should be as accurate as possible, neither under- or overestimated. Please use engineering judgement to select the best information available for calculating your facility's emissions. The best information comes from CEMS, then from stack testing. If neither of these are available, use equipment_specific emission factors from the manufacturer (where such manufacturer's numbers represent actual performance rather than an emission limit the unit is guaranteed to meet) or_EPA factors when unit-specific data is not available. Please see Appendix C for more guidance on calculating your own emissions

Actual (in Tons) for previous year - eDEP only:

For repeat filers: This information will be provided by the system. For new emission units: This section is not applicable.

What are "actual emissions"?

Actual emissions are an estimate of the total tons of each pollutant emitted by the emission unit during the year covered by the report (the year of record). Emissions need to be calculated for each fuel; then the sum of each pollutant's emissions is used to calculate the emission unit's total emissions. eDEP will calculate the actual emissions for each fuel, unless you have checked the box next to the pollutant. Please see Appendix C for more detailed information on calculating actual emissions.

Actual (in Tons) for year of record

Put a check in the appropriate box if you choose to calculate the emissions from this fuel yourself. Otherwise the system will calculate this information for each pollutant except for those that you put a check in the box.

NOTE: although actual emissions that are less than 0.0001 are rounded to zero, when the form is validated; All values greater than or equal to zero are used to calculate the CO2e amount for each pollutant. In the validation process, the CO2e value is calculated. Then if the *Actual (in Tons) for year of record* is less than 0.0001, this value is changed to zero

What are emission factors?

Emissions factors are the **amount of pollution generated per unit of operation**. For fuels, total tons of emissions per year are obtained by the formula [**EF in lb/fuel unit] x [fuel usage] / [2000 lb per ton] =** tons per year (**TPY) of emissions**. If you allow eDEP to calculate your emissions, this field will be filled with EPA default emission factors, uncontrolled, based on the SCC.

If you choose to calculate your own emissions, you must enter the emission factor that you used.

Because they are generic, the EPA emission factors are not applicable in all situations. They may overstate emissions for facilities

See Appendix C for more information about using emissions factors to calculate emissions.

Emission factor (EF)

Provide this information only if you are calculating the emissions yourself, otherwise, the emission factor is provided based upon the SCC Code chosen for this emission unit and fuel combination.

in pounds per unit (EF units):

If you are calculating the emissions yourself, the EF units must match the chosen SCC – you must pick the unit from the drop-down menu associated with the chosen SCC. The unit selected must match the unit present in the response to B.2.b.

What EF and EF units should be used to report SF6 and Refrg-CO2e emissions?

Neither SF6 nor Refrg-CO2e require a response in the fields Emission factor (EF) and in pounds per unit. These fields should auto-fill blank and be locked.

How do I use CEMs data?

If you use CEMs to determine annual emissions, report the CEMS emissions value on this form.

IMPORTANT: If you use CEMS to determine annual emissions, you must provide the CEMs equipment information in question A.15 and identify "GHG-CEMS" for Calculation Method.

Calculation Method

If the system is calculating the actual emissions for the pollutant, use GHG-EPA EF: EPA GHG Emission Factor

If you are calculating the actual emissions for the pollutant yourself, you can choose from the following in a dropdown list:

CODE	DESCRIPTION
GHG-CEMS	Continuous Emission Monitoring System Data
GHG-User EF	User Provided GHG Emission Factor
GHG-MatlBalance	Emissions Based on Material Balance
GHG-TCR EF	General Reporting Protocol EF ⁷

NOTE: For SF6, the Calculation Method should auto-fill with GHG-MatlBalance and the field will be locked.

Specify General Reporting Protocol EF If you select GHG-TCR EF from the Calculation Method dropdown list, then you need to select the type of Default Emission Factor from this drop down list.

CO2e for previous year

For repeat filers: This information will be provided by the system.

For new emission units: This section is not applicable.

CO2e for year of record

Using the Global Warming Potential values stored in our system, the form will automatically calculate the Carbon Dioxide Equivalent (CO2e) of each pollutant where the actual emissions value is greater than zero.

NOTE: although actual emissions that are less than 0.0001 are rounded to zero, when the form is validated; all values greater than or equal to zero are used to calculate the CO2e amount for each pollutant. In the validation process, the CO2e value is calculated. If the *Actual (in Tons) for year of record* is less than 0.0001, this value is changed to zero

BAW Source Registration &/or Greenhouse Gas Instructions Incinerator (AP-3) Emission Unit Form (for SRGHG Package) Page 155 of 230 September 2018

⁷ The Climate Registry's General Reporting Protocol and emission factors are available on the TCR website (https://www.theclimateregistry.org/tools-resources/reporting-protocols/general-reporting-protocol/)

The form will automatically calculate the Total Carbon Dioxide Equivalent (CO2e) based on the 4 Total CO2e emissions

calculated CO2e of each pollutant where their actual emissions value is greater than zero.

This information will be provided by the system. CO2e for previous year

For new emission units: This section is not applicable.

The form will automatically calculate the Total Carbon Dioxide Equivalent (CO2e) from the Carbon CO2e for year of record

Dioxide Equivalent (CO2e) of each pollutant where the actual emissions value is greater than zero.

You must click [Error Check] to move on to the next form in your package. The system will force you to make any necessary corrections.

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To continue your work on this package, click on the next form you want to work on or click [Next] found at the end of the <Transaction Overview page>.

B. FUELS AND EMISSIONS (SECTION B CHILD FORMS: (DEP FUEL# 3) SECONDARY CHAMBER INFORMATION)

NOTE: In general, the information requested below will be pre-populated from MassDEP's Air Quality database. However, certain data submitted to MassDEP in a different format (i.e. CRIS) was not historically stored in Air Quality database. That data will not appear on the electronic forms until it has been submitted in this format.

With certain exceptions, which will be noted, the preparer can edit any information listed below.

Is GHG emissions reporting required for this fuel, waste or raw material/finished product? (in SRGHG Package)

Check the appropriate box, yes or no. If Yes, then complete Section B. Otherwise, validate this form; no GHG emissions' reporting is required for this Section B.

NOTE: if the response is Fuel for guestion "Is this fuel, waste, or raw material/finished product an input, output or fuel?", then the response to this question is Yes.

Is this fuel, waste, or raw material/finished product an input, output or fuel?

Check the appropriate box: input, output or fuel.

NOTE: Raw Material (or incinerator waste) would be considered an Input; finished product would be considered an Output, and the "material" used in a fuel burning device would be considered Fuel. However, if you use a "fuel" as part of your process operation (and not associated with combustion equipment), this "fuel" would be considered an Input or if the "fuel" is being stored and you are required to report breathing loss and/or transfer loss, then this "fuel" would be considered an Output.

For example: Using a coating line with natural gas dryers, depending on how you reported the coating operation, the coating(s) used (i.e. ink, paint, dye) would be considered an Input and the material that is coated (i.e. fabric, metal parts, cardboard, etc.) would be considered an **Output.** The natural gas used by the dryer would be considered a **Fuel**.

NOTE: If this information is inaccurate, please contact us at BAW.eDEP@state.ma.us

This is a unique number assigned by MassDEP that allows the system to recognize this fuel associated 1. DEP Fuel #: with this emission unit on future reports.

> If this is a new Fuel, the field is blank and locked – MassDEP will assign this number. If this is an existing Fuel, the information will be pre-populated for existing fuels associated with this emission unit.

Can I change the DEP fuel identifier?

This ID number is a MassDEP assigned number and cannot be changed

a. Source Classification Code (SCC)

The SCC is an EPA code for the type of unit operation or production process or fuel. EPA's AP-42 (https://www.epa.gov/chief) contains the codes for each type of process, as well as, emission factors that can, in certain circumstances, be used to calculate emissions for each unit.

SCC Description

If the SCC is pre-populated, the SCC Description will also be pre-populated. If you add or changed the SCC, the system will automatically fill in the SCC Description when the form is validated.

How does eDEP use Source Classification Codes (SCC)?

SCC are standard codes EPA uses to identify different operations/activities and their associated emissions factors, if available. The SCC you select will be used to supply the emission factors for the automatic emissions calculation feature included in the eDEP system and to help analyze the data. The SCC also identifies the Units per hour which are used for your response to B.2.b: Annual usage, and the B.3 Emission Factor Units (in pounds per unit). The list of SCC's used in eDEP can be found at: https://www.mass.gov/guides/massdep-source-registration

If the SCC listed on the form is wrong, enter the correct code.

If the form will not accept the SCC you are entering, contact MassDEP at BAW.eDEP@state.ma.us

b. Fuel/Material/Waste Type:

This response is determined based on the SCC. If the SCC is pre-populated, the fuel type will also be pre-populated. If you added or changed the SCC, the system will automatically fill in the fuel type when the form is validated.

d. Is this a Primary chamber auxiliary burner? Check the appropriate box, yes or no. If Yes, then this Section B information is associated with the primary chamber auxiliary burner. If No, then this Section B information is associated with the secondary auxiliary burner

NOTE: This field is only present on the Section B Child Forms.

NOTE: for an existing Incinerator, DEP Fuel#2 is associated with the primary auxiliary burner and DEP Fuel#3 is associated with the secondary auxiliary burner.

IMPORTANT: If the chamber is not identified correctly, contact MassDEP at BAW.eDEP@state.ma.us

Temperature - degrees in Fahrenheit

Put the actual and permitted maximum operating temperature on the "Upper" lines and the minimum operating and permitted temperature on the "Lower" lines for both the primary and secondary chambers.

Secondary Chamber

a. Operating range
b. Permitted range:
Lower
Upper
Lower
Upper

Retention time in seconds

Put the actual and permitted maximum operating retention times in seconds on the "Upper" lines and the minimum operating and permitted retention times on the "Lower" lines for both the primary and

secondary chambers.

Secondary Chamber

a. Operating range
b. Permitted range:
Lower
Upper
Lower
Upper

Chamber auxiliary burner

c. Burner model number

a. Type of burner: Check the appropriate box, provide a description if other.

Rotary Traveling grate Air atomizer

Mech. Atomizer Hand fired Steam atomizer

Other: specify "other" burner type

b. Burner manufacturer Firm that built the unit, information can be usually found on metal nameplate on unit.

Do not leave blank: enter UNKNOWN, if unknown.

Information can be found on metal nameplate on unit.

Do not leave blank: enter UNKNOWN, if unknown.

d. Maximum rating MMBtu/hr
Maximum rated capacity regardless of permit limitations. Information can be found on metal nameplate on unit. Do not leave blank.

Tip: The manufacturer's maximum input rating is located on a metal nameplate on the unit. It is usually expressed in Btu per hour or gallons per hour for engines. If the unit is not an engine and burning oil, to convert the value from gallons to Btu use the appropriate Oil Heat Values found in <u>Table C.1.3-2</u>. Identify the appropriate Heat Value BTU per gallon based on the Fuel Type and Sulfur Content % by weight found in the chart. Remember to check that the maximum input rating is in **Million Btu** per hour (MMBtu/hr).

e. Sulfur content for oils (Acceptable Range 0 – 2.2):

The percentage of sulfur by weight for oil, only.

TIP: This is determined by analysis of a fuel sample or can be found on the receipt from your fuel dealer.

f. Maximum hourly fuel rate for all firing burners:

The maximum fuel that all burners in this emission unit can fire in one hour, and the units of measurement from the drop-down menu (e.g., gallons per hour, tons per hour, million cubic feet per hour, etc.) is based on the chosen SCC Code.

Amount

IMPORTANT: You may need to convert the Amount so that the value is expressed for the units associated with the chosen SCC. For example, if the chosen SCC expresses the firing rate units in 1000 gallons/hr then 72 gallons/hr would be entered as 0.072 1000 gallons/hr.

Units per hour

This response is determined based on the SCC. If the SCC is pre-populated, the Units per hour will also be pre-populated. If you added or changed the SCC, the system will automatically fill in the Units per hour when the form is validated.

g. Do you have fuel or usage restrictions?

These would have been expressed in a regulation, the plan approval you received from MassDEP for this emission unit or one that applies to several emission units. Check the appropriate yes or no box. If No, then skip to Question 23.

If the same restrictions also apply to other emission units, report the restrictions on those emission unit forms, as well.

Cite the most recent fuel use restriction applicable to the fuel as it is used in this emission unit. The most recent fuel use restriction may be found in a regulation, an approval that applies only to this emission unit, or one that applies to several emission units, or the facility as a whole.

h. DEP approval number for fuel restrictions: most recent for this fuel.

Obtain this from your plan approval letter. Cite either plan approval or regulation.

What if the restriction is mentioned in multiple approvals?

Enter the most recent approval number for the restriction.

i. Annual usage restriction for this fuel:

Quantity

Provide the maximum amount of fuel you are allowed to use in a year per your permit and the units of measurement from the drop down list, or the maximum amount of time you are allowed to use the unit in a year per your permit and the unit of measurement. Obtain this from your plan approval letter or regulation.

Units

Choose the units of measurement from the drop down list. If your units are not on the drop-down menu, email BAW.eDEP@state.ma.us

What if the restriction applies to multiple units?

If a restriction applies to multiple units then enter that same quantity here and on the forms for each other unit to which it applies.

j. Short term fuel usage restriction for this fuel:

Quantity:

Provide the maximum amount of fuel or time you are allowed to use over the short-term period specified in your plan approval. Obtain this from your plan approval letter or regulation.

Choose the units of measurement from the drop down list. If your units are not on the drop-down menu,

email <u>BAW.eDEP@state.ma.us</u>

Per:

Units:

Check the appropriate box for the time period: Month, Week, Day or Hour.

2. Annual usage:

a. Total actual amount used for year of record

The actual amount of fuels/materials/products used in this emission unit during the calendar year being reported. Enter "0" if fuels/materials/products was not used in the year of record.

IMPORTANT - Remember you may need to convert the Amount so that the value is expressed for the units associated with the chosen SCC. For example, if the chosen SCC expresses the units in 1000 gallons then 72 gallons would be entered as 0.072 1000 gallons.

b. Units

This response is determined based on the SCC. If the SCC is pre-populated, the Units will also be pre-populated. If you add or changed the SCC, the system will automatically fill in the Units when the form is validated.

Units help text

Units MUST match the units specified for the SCC. If the units for your data do not match the units for the SCC, you need to convert your values to units that match the SCC or select a different SCC

Prior year (Annual usage)

This information will be provided by the system based on your last submittal. For new emission units: This question is not applicable

TIP: Compare the annual usage from prior year of record to the current year's usage as a check. If they are orders of magnitude off, check the units.

You must click [Error Check] to move on to the next form in your package. The system will force you to make any necessary corrections.

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To continue your work on this package, click on the next form you want to work on or click [Next] found at the end of the <Transaction Overview page>.

B. GREENHOUSE GAS EMISSIONS (DEP FUEL# 3) SECONDARY CHAMBER (IN SRGHG PACKAGE)

BAW Source Registration &/or Greenhouse Gas Instructions Incinerator (AP-3) Emission Unit Form (for SRGHG Package) Page 159 of 230 September 2018

3. Total GHG emissions for this fuel only in tons per year:

Provide the following information for all pollutants emitted by the emission unit for this fuel only

CO2 CH4 N2O SF6 Refrigerants-CO2e CO2e-CO2 CO2e-CH4 CO2e-N2O CO2e-SF6 CO2e-Refrigerants

Other GHG Pollutant CO2e- Other GHG Pollutant

CALCULATIONS: READ FIRST

The form will automatically calculate the actual emissions from your annual throughput and EPA default emission factors. To calculate your own emissions, check the box next to each pollutant's name (eDEP will calculate the emissions for any pollutant where you do not check the box).

The form will automatically calculate the Carbon Dioxide Equivalent (CO2e) for each specific pollutant and the Total CO2e based on the actual emissions values; manual calculating of these values is not an option.

Why you may want to calculate your own emissions values?

The GHG emissions should be as accurate as possible, neither under- or overestimated. Please use engineering judgement to select the best information available for calculating your facility's emissions. The best information comes from CEMS, then from stack testing. If neither of these are available, use equipment_specific emission factors from the manufacturer (where such manufacturer's numbers represent actual performance rather than an emission limit the unit is guaranteed to meet) or_EPA factors when unit-specific data is not available. Please see Appendix C for more guidance on calculating your own emissions

Actual (in Tons) for previous year - eDEP only:

For repeat filers: This information will be provided by the system. For new emission units: This section is not applicable.

What are "actual emissions"?

Actual emissions are an estimate of the total tons of each pollutant emitted by the emission unit during the year covered by the report (the year of record). Emissions need to be calculated for each fuel; then the sum of each pollutant's emissions is used to calculate the emission unit's total emissions. eDEP will calculate the actual emissions for each fuel, unless you have checked the box next to the pollutant. Please see Appendix C for more detailed information on calculating actual emissions.

Actual (in Tons) for year of record

Put a check in the appropriate box if you choose to calculate the emissions from this fuel yourself. Otherwise the system will calculate this information for each pollutant except for those that you put a check in the box.

NOTE: although actual emissions that are less than 0.0001 are rounded to zero, when the form is validated; All values greater than or equal to zero are used to calculate the CO2e amount for each pollutant. In the validation process, the CO2e value is calculated. Then if the *Actual (in Tons) for year of record* is less than 0.0001, this value is changed to zero

What are emission factors?

Emissions factors are the **amount of pollution generated per unit of operation**. For fuels, total tons of emissions per year are obtained by the formula [**EF in lb/fuel unit] x** [**fuel usage]** / [**2000 lb per ton**] = tons per year (**TPY) of emissions**. If you allow eDEP to calculate your emissions, this field will be filled with EPA default emission factors, uncontrolled, based on the SCC.

If you choose to calculate your own emissions, you must enter the emission factor that you used.

Because they are generic, the EPA emission factors are not applicable in all situations. They may overstate emissions for facilities

See Appendix C for more information about using emissions factors to calculate emissions.

Emission factor (EF)

Provide this information only if you are calculating the emissions yourself, otherwise, the emission factor is provided based upon the SCC Code chosen for this emission unit and fuel combination.

in pounds per unit (EF units):

If you are calculating the emissions yourself, the EF units must match the chosen SCC – you must pick the unit from the drop-down menu associated with the chosen SCC. The unit selected must match the unit present in the response to B.2.b.

What EF and EF units should be used to report SF6 and Refrg-CO2e emissions?

Neither SF6 nor Refrg-CO2e require a response in the fields Emission factor (EF) and in pounds per unit. These fields should auto-fill blank and be locked.

How do I use CEMs data?

If you use CEMs to determine annual emissions, report the CEMS emissions value on this form.

IMPORTANT: If you use CEMS to determine annual emissions, you must provide the CEMs equipment information in question A.15 and identify "GHG-CEMS" for Calculation Method.

Calculation Method

If the system is calculating the actual emissions for the pollutant, use GHG-EPA EF: EPA GHG Emission Factor

If you are calculating the actual emissions for the pollutant yourself, you can choose from the following in a dropdown list:

CODE	DESCRIPTION
GHG-CEMS	Continuous Emission Monitoring System Data
GHG-User EF	User Provided GHG Emission Factor
GHG-MatlBalance	Emissions Based on Material Balance
GHG-TCR EF	General Reporting Protocol EF8

NOTE: For SF6, the Calculation Method should auto-fill with GHG-MatlBalance and the field will be locked.

Specify General Reporting Protocol EF

If you select GHG-TCR EF from the Calculation Method dropdown list, then you need to select the type of Default Emission Factor from this drop down list.

BAW Source Registration &/or Greenhouse Gas Instructions Incinerator (AP-3) Emission Unit Form (for SRGHG Package) Page 161 of 230 September 2018

⁸ The Climate Registry's General Reporting Protocol and emission factors are available on the TCR website (https://www.theclimateregistry.org/tools-resources/reporting-protocols/general-reporting-protocol/)

CO2e for previous year For repeat filers: This information will be provided by the system.

For new emission units: This section is not applicable.

CO2e for year of record Using the Global Warming Potential values stored in our system, the form will automatically calculate the

Carbon Dioxide Equivalent (CO2e) of each pollutant where the actual emissions value is greater than

zero.

NOTE: although actual emissions that are less than 0.0001 are rounded to zero, when the form is validated; all values greater than or equal to zero are used to calculate the CO2e amount for each pollutant. In the validation process, the CO2e value is calculated. If the *Actual (in Tons)* for year of

record is less than 0.0001, this value is changed to zero

4 Total CO2e emissions The form will automatically calculate the Total Carbon Dioxide Equivalent (CO2e) based on the

calculated CO2e of each pollutant where their actual emissions value is greater than zero.

CO2e for previous year

This information will be provided by the system.

For new emission units: This section is not applicable.

CO2e for year of record

The form will automatically calculate the Total Carbon Dioxide Equivalent (CO2e) from the Carbon

Dioxide Equivalent (CO2e) of each pollutant where the actual emissions value is greater than zero.

You must click [Error Check] to move on to the next form in your package. The system will force you to make any necessary corrections.

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To continue your work on this package, click on the next form you want to work on or click [Next] found at the end of the <Transaction Overview page>.

D. TOTAL EMISSIONS FOR EMISSION UNIT (SEPARATE CHILD FORM) (IN SRGHG PACKAGE)

The actual, potential, and, if applicable, permitted emissions from this unit for each listed air contaminant during the calendar year being reported.

NOTE: manual calculating of actual and potential emissions is not an option.

1. Total Emissions for this emission unit in tons per year:

Calculations: This form automatically calculates this unit's total actual and potential emissions (using the information you provided for each raw material/finished product/fuel in each Section B). Return to Section B if you need to correct those numbers.

PM10<mark>-FIL</mark> PM2.5<mark>-FIL PM-CON</mark> SO2 PB VOC NH3 CO NO2

What are total emissions for this emission unit?

This form automatically calculates the total actual and potential emissions of each pollutant from this emission unit. It calculates these values from the data you entered in Section B: Emissions for each raw material/finished product/fuel.

Please enter any emission limits that apply to the unit as a whole (regardless of raw material/finished product/fuel) under "Allowable" below.

Actual (in Tons) for previous year

The actual emissions for the prior year reported

For repeat filers: This information will be provided by the system. For new emission units: This information is not applicable.

Actual (in Tons) Emissions

The actual emissions for the calendar year being reported.

For repeat filers: this information will be provided by the system and is the sum of the emissions from each raw material/finished product/fuel (from each Section B).

Potential emissions (in Tons):

This information will be calculated by the system and is the potential from all raw material/finished product/fuels (Section Bs).

Maximum allowed emissions (in Tons) – annual

These questions only apply if this entire emission unit is subject to a plan approval or permit or regulation that restricts operations or emissions, regardless of raw material/finished product/fuel. If the restriction is raw material-specific/product-specific, it should be entered in that raw material's/product's Section B.

Maximum annual emissions allowed pursuant to your permit or plan approval or regulatory restriction.

NOTE: Some emission units will not have plan approvals because:

- 1. they are below the threshold for which a plan approval or permit is required;
- 2. they were installed before the effective date of the regulation; or
- they were "permitted by rule" installed in accordance with the provisions of 310 CMR 7.03: U
 Plan Approval Exemption.

Maximum allowed emissions (in Tons)) - short term

Maximum short term emissions allowed pursuant to your permit or plan approval or regulatory restriction based on a short term period of day, hour, week, month or Million BTUS. Select the appropriate response from the drop down list

Short term period:

Maximum short term emissions allowed pursuant to your permit or plan approval or regulatory restriction based on a short term period of day, hour, week, month or Million BTUS. Select the appropriate response from the drop down list.

Provide either the plan approval or regulation establishing the emission limits for this EU as a whole.

Basis – DEP approval number or regulation:

NOTE: Some emission units will not have plan approvals because:

- 1. they are below the threshold for which a plan approval or permit is required;
- 2. they were installed before the effective date of the regulation; or
- 3. they were "permitted by rule" installed in accordance with the provisions of 310 CMR 7.03: U Plan Approval Exemption.

If a plan approval established emission limits for the pollutant associated with this EU ,: write the approval number This number is found on the letter sent by MassDEP

If a regulation established emission limits for the pollutant, cite the regulation

When do I complete the "allowable" emission fields?

Complete the "allowable" field if there is an annual or a short-term **emission limitation applicable to the emission unit as a whole** expressed in either a MassDEP approval or a regulation. Be sure to enter the approval number or regulation under "Basis".

What if a restriction applies to multiple units?

If a restriction applies to multiple units then list it here and on the forms for each other unit to which it applies. Make a note in Section C that it applies to multiple units and describe the restriction.

2. Ozone season schedule - May 1 through September 30:

Ozone season calculation options: This form automatically calculates an estimate of the ozone season emissions for this emission unit using the data you provided on ozone season operation (Questions A.11a through A.11.c) and some simplifying assumptions. If you wish to report a more precise value based on your own calculations and data, check the box below the blank lines at D.2a. and D.2b.

a. Typical day VOC emissions – pounds per day

The system will calculate this information on the basis of data you supplied on the form.

b. Typical day NOx emissions – pounds per day

Check to enter your own values

NOTE: The form will estimate the ozone season emissions for you. However, you may enter your own values by checking the boxes.

3. Total GHG Emissions for this emission unit in tons per year

Calculations: This form automatically calculates this emission unit's total actual emissions (if you have correctly provided all of the emissions for each fuel in each Section B). Return to Section B forms if you need to correct those numbers.

CO2 CH4 N2O SF6 Refrigerants-CO2e CO2e-CO2 CO2e-CH4 CO2e-N2O CO2e-SF6 CO2e-Refrigerants

What are total emissions for this emission unit?

This form automatically calculates the total actual emissions, total carbon dioxide equivalent (CO2e) for each specific pollutant and the Total CO2e from this emission unit. It calculates these values from the data you entered in Section B: Emissions for each fuel.

Actual (in Tons) for previous year

The actual emissions for the prior year reported

For repeat filers: This information will be provided by the system.

For new emission units: This section is not applicable.

Actual (in Tons) Emissions

The actual emissions for the calendar year being reported

This information will be provided by the system and is the sum of the emissions from each

fuel (from each Section B).

CO2e for previous year (in

Tons)

The actual emissions for the prior year reported

For repeat filers: This information will be provided by the system.

For new emission units: This section is not applicable.

CO2e for year of record (in Tons)

The CO2e for each specific pollutant for the calendar year being reported

This information will be provided by the system and is the sum of the emissions from each fuel (from

each Section B).

Total CO2e emissions

CO2e for previous year This information will be provided by the system.

For new emission units: This section is not applicable.

The Total Carbon Dioxide Equivalent (CO2e) for the calendar year being reported

CO2e for year of record

This information will be provided by the system and is the sum of the emissions from each fuel (from

each Section B).

You must click [Error Check] to move on to the next form in your package. The system will force you to make any necessary corrections.

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To continue your work on this package, click on the next form you want to work on or click [Next] found at the end of the <Transaction Overview page>.

BAW GHG FORM EMISSION UNIT INSTRUCTIONS: GHG-ONLY (FOR SRGHG PACKAGE)

PURPOSE

The "GHG-ONLY" version of the GHG Form describes equipment (emission unit), "fuel use" in the form of raw material or finished product, and associated air pollution emissions at the facility during the calendar year being reported for GHG emissions equipment, except for any emission units (EUs) that are subject to SR emissions reporting: i.e. Fuel Burning Devices, Process or Incinerators.

NOTE: Due to technical differences between the previous CRIS platform and eDEP, there have been changes to the emissions sources that should be reported through eDEP. MassDEP does not require reporting of GHG emissions from motor vehicles, refrigerant leaks from cooling equipment and emissions from sources that are considered "insignificant activities" under 310 CMR 7.00: Appendix C(5)(i) (such as small portable equipment, various flares, etc.). More broadly, sources of greenhouse gas emissions should be reported if 40 CFR Part 98 includes a method for calculating greenhouse gas emissions that can be used to quantify emissions from the source.

WHEN IS THIS FORM APPLICABLE?

The "GHG-ONLY" version of the GHG Form applies in instances where reporting of fugitive GHG emissions from the natural gas distribution system is required, but the activity type is not subject to SR emissions reporting. In this situation, the response in Question A.2.f: Emission Unit Category is "GHG-ONLY". If you are also subject to SR Reporting and use GHG-ONLY, then your SRGHG Package will also contain a GHG Form.

For Question B1.a Source Classification Code (SCC) use the following new code to report your "GHG Only" emissions:

 99999999 - GHG Source Categories - Unspecified Technology - Natural Gas Distribution System - Fugitive Emissions

HOW MANY VERSIONS OF THIS FORM ARE REQUIRED?

Submit one form for each GHG emission unit. You must include any GHG emission units added or decommissioned since your last submittal.

CAUTION: FOR FILERS WITH NEW GHG EMISSION UNIT SINCE THEIR LAST SUBMITTAL

You must create a new emission unit form for any new emission unit. If you have not already created the new emission unit (when first opening your source registration package), you must either:

- 1) Under Transaction Overview, open the first form labeled <Greenhouse Gas (GHG) Package>;
 - Under Section A, Q.1 check the box that indicates new equipment has been added;
 - Under Transaction Overview, select <New Unit Form Creator (New Form Creator)>;
 - Choose the appropriate form and enter the number of new units;
 - Validate the form by selecting [Error Check];
 - Follow subsequent instructions.

----Or----

- 2) You must create a new eDEP partial Greenhouse Gas (GHG) package for that emission unit. Once you have submitted the package you are working on:
 - Return to Forms"; "Air & Climate";
 - Select your package using "Start Transaction;
 - In Preform, if correction is to a prior reporting year submittal, change the reporting year using the drop down list;
 - In Overview Form, unselect Existing Facility and put a check mark by the units that you want to amend. Or if you need to add a unit, check the box under A.1 "check if you added emission units";
 - Follow subsequent instructions pertaining to the New Unit Form Creator (New Form Creator).

IMPORTANT: Before amending your package for the current reporting year, email <u>BAW.eDEP@state.ma.us</u> to confirm that your submittal has been accepted by MassDEP.

CAUTION: If you realize in the midst of completing this package that you need to create additional forms, DO NOT return to the Overview form UNLESS you are willing to revalidate each previously validated form. Revalidation requires that you open and revalidate every form in the package – you don't lose any of the data you have entered, but the process can be time consuming, particularly for a facility with numerous validated forms.

The best way to add emission units AFTER you have completed much of your package may be by submitting a supplemental package (Option 2 above).

A. EQUIPMENT DESCRIPTION

NOTE: In general the information requested below will be pre-populated from MassDEP's Air Quality database. However, certain data submitted to MassDEP in a different format (i.e. via the Climate Registry Information System (CRIS) was not historically stored in the Air Quality database. That data will not appear on the electronic forms until it has been submitted in this new format.

With certain exceptions, which will be noted, the preparer can edit any information listed below.

1. Facility Identifiers

a. Facility Name

b. DEP Account number

c. Facility AQ Identifier

The name and identifying numbers of the facility or plant that you are reporting.

This will be pre-populated from the information on your BAW AQ Facility Information Form.

NOTE: You cannot change the facility name on this form. To change the facility name you must contact your MassDEP Regional Office FMF Data Manager.

CAN I CHANGE THE RESPONSES TO THE EMISSION UNIT IDENTIFIER FIELDS? 2. Emission unit identifiers

eDEP allows you to change the name (2.a) and give your own number (2.b) to each emission unit. MassDEP keeps track of the units by the DEP number (2.c), and therefore you cannot change it.

If this is a new Emission Unit: Assign the emission unit a name/number in order to uniquely identify it. If this is an existing Emission Unit: Assign or change the emission unit name/number in order to uniquely identify it.

a. Facility's choice of emission unit name- edit as needed.

A unique name of your choice that will allow you to recognize this unit on future reports

b. Facility's emission unit number / code - edit as needed.

A unique number or code of your choice that will allow you to recognize this unit on future reports. Example: Natural gas pipeline

If this is a new Emission Unit, the field is blank and locked – MassDEP will assign this number. c. DEP emission unit # -

> If this is an existing Emission Unit, the information will be pre-populated for existing emission unit. This is a unique number assigned by MassDEP that allows MassDEP to recognize the unit on future reports.

d. ORIS id # – for large electrical utilities only

This information will be populated from the BAW AQ Facility Information form.

e. Combined units- enter number of individual units Total number of individual units combined on this form.

NOTE: For the GHG Form do not combine emission units. List each of the fugitive emission units for Natural Gas Distribution System, individually.

f. Emission Unit Category

For the GHG form (in the SRGHG package), the response is autofilled with "GHG-ONLY" and the field

is locked.

q. Is GHG emissions reporting required for this emission unit? A GHG emission reporting is required for the GHG form. A "Yes" response is present and this field is

NOTE: This question will only be present in the SR/GHG package; it won't be present in the SR Only package.

WHAT ARE COMBINED UNITS AND WHEN CAN **EQUIPMENT BE COMBINED** AS ONE EMISSION UNIT?

GHG-Only can NOT be combined

3. Emission unit installation and decommission dates

Provide the requested dates in the appropriate lines. If the unit was installed many years ago and you do not know the exact date, use your best approximation.

a. Installation dates – estimate if unknown (mm/dd/yyyy)

The date on which the unit became operational. Do not leave blank: Estimate if unknown.

b. Decommission dates – If applicable (mm/dd/yyyy)

Complete only if the unit was shut down permanently or replaced any time before December 31st of the year of record.

HOW / WHEN TO DELETE A UNIT?

Enter a decommission date in 3.b if the unit is being **permanently taken out of service**. If the decommissioned unit operated in the year of record, the emissions from that unit must be included in this package. Therefore units "decommissioned" in this package will remain on the list of emission units for this year of record. They will NOT appear on the NEXT year of record package.

NOTE: If you decommissioned a unit prior to the year of record (and are decommissioning it in this package) you must enter zero for the maximum hourly fuel rate, annual fuel usage, actual emissions, and potential emissions. Failing to enter zero for the maximum firing rate on this AP1 will cause the form to calculate non-zero potential emissions, which cause your facility wide PTE to be incorrect on the AP-TES.

NOTE: In cases where you have combined units, and took one (or more) out of service DO NOT enter a decommission date. Simply change the number of combined units in the combined units field. Do not decommission the EU unless ALL of the combined units are taken out of service.

4. Emission unit replacement

Check the appropriate box, yes or no. If Yes, then complete 4.b. Otherwise, continue on to Question 5.

a. Is this unit replacing another emission unit?

Choose from the drop-down menu. It is populated with the emission units you decommissioned in this and previous submittals for this year of record.

b. DEP's emission unit number and facility unit name.

HOW TO BE SURE THE UNIT BEING REPLACED APPEARS IN THIS MENU?

Line A.4.b. "DEP's emission unit number and facility's name for emission unit" is a mandatory field when the "yes" box is checked. However, the unit being replaced **will not appear as a choice** on the drop-down menu **until it is decommissioned**. You will not be able to complete and validate this form for a replacement unit until you have first entered a decommission date and completed and validated the form for the unit it is replacing. If this unit is replacing another unit that has not been "decommissioned", you must 1) save and exit this form, 2) open the form for the unit being replaced, 3) enter the decommission date, 4) complete and validate the form by selecting [Error Check] before you can complete this form.

WHAT IF ONE EMISSION UNIT IS REPLACING MORE THAN ONE UNIT?

If one new emission unit is replacing several units, pick one of the units being replaced on the dropdown menu and note the others in Section C Notes.

- 5. Equipment
- a. Type:

EPA Unit Type Code

Choose from drop-down menu.

NOTE: Use EPA Unit Type Code. The complete list of EPA Unit Type Codes can be found on the SR website: **References You Will Need**

EPA unit type code help text

Unit Type Code is a field required by US EPA for the National Emissions Inventory. Please select the most appropriate category from the drop menu. (The complete list of EPA Unit Type Code can be found on the SR website: References You Will Need.) If none are close for your unit, choose one of the "Other..." or "Unclassified" type codes and provide additional information in field A.5.a Other EPA Unit Type (describe). This field allows for 50 characters.

EPA Unit Type (describe):

This field will be locked and should be the same response that is present in the EPA Unit Type Code field, except when the EPA Unit Type Code is OTHER COMBUSTION OR UNCLASSIFIED. When one of these responses is present in the EPA Unit Type Code field then Type field is unlocked to allow for a description of the equipment type; this field allows for 50 characters.

WHAT TO DO IF DATA UNKNOWN OR NOT AVAILABLE?

Do not leave blank: if date or numeric field – estimate; for other fields enter UNKNOWN, if unknown.

b. Manufacturer

Firm that built the unit, information can be usually found on metal nameplate on unit.

Do not leave blank: enter UNKNOWN, if unknown.

Provide the requested information for the combustion unit.

c. Model number

Information can be found on metal nameplate on unit. Do not leave blank: enter UNKNOWN, if unknown.

Provide the requested information for the entire combustion unit.

d. Maximum input rating MMBtu/hr

Maximum rated capacity regardless of permit limitations. Information can be found on metal nameplate on unit. Do not leave blank.

Tip: The manufacturer's maximum input rating is located on a metal nameplate on the unit. It is usually expressed in Btu per hour or gallons per hour for engines. If the unit is not an engine and burning oil, to convert the value from gallons to Btu use the appropriate Oil Heat Values found in Table C.1.3-2. Identify the appropriate Heat Value BTU per gallon based on the Fuel Type and Sulfur Content % by weight found in the chart. Remember to check that the maximum input rating is in **Million Btu** per hour (MMBtu/hr).

B. FUELS AND EMISSIONS (FOR PARENT AND SECTION B CHILD FORMS)

NOTE: In general, the information requested below will be pre-populated from MassDEP's Air Quality database. However, certain data submitted to MassDEP in a different format (i.e. CRIS) was not historically stored in Air Quality database. That data will not appear on the electronic forms until it has been submitted in this format.

With certain exceptions, which will be noted, the preparer can edit any information listed below.

Is GHG emissions reporting required for this fuel,waste or raw material/finished product?

If GHG emissions' reporting is not required for this raw material or finished product, check No. **NOTE**: If fuel, GHG emissions' reporting is always required.

Is material/product/fuel an input or output or fuel?

Raw Material would be considered an **Input**; finished product would be considered an **Output**, and the "material" used in a fuel burning device would be considered **Fuel**. However, if you use a "fuel" as part of your process operation (and not associated with combustion equipment), this "fuel" would be considered an **Input** or if the "fuel" is being stored and you are required to report breathing loss and/or transfer loss, then this "fuel" would be considered an **Output**.

Example: Using a coating line with natural gas dryers, depending on how you reported the coating operation, the coating(s) used (i.e. ink, paint, dye) would be considered an **Input** and the material that is coated (i.e. fabric, metal parts, cardboard, etc.) would be considered an **Output**. The natural gas used by the dryer would be considered a **Fuel**.

How does eDEP handle multiple fuels?

In eDEP, a separate Section B form is automatically created for each additional fuel on record based on the "Number of fuels for this unit (previous records)". Before checking the box at the right to make a change, please note the following:

- 1) If you need to add a new fuel and "Number of fuels for this unit...." is greater than 1, wait to see the other fuels before checking this box, or
- 2) If you ceased using this fuel and "Number of fuels for this unit...." is 1, do NOT check "delete this fuel" unless you also check "Add a new fuel"; this form requires one active fuel to function properly.

NOTE: If the response to A.3.b contains a decommission date (i.e., the emission unit is decommissioned), you do not need to select "delete this fuel".

Add a New Fuel:

Check the box if you need to add a fuel that you did not previously report (eDEP will add a blank Section B form to this Fuel Burning Device Form when you successfully validate it.) Any additional fuels will automatically appear when you error check this form so you do NOT need to check this field to make additional fuels appear if they have been reported on in a previous submittal. You can see the number of fuels already existing for this unit in the field: "Number of fuels for this unit (previous records)". Use this check box only for NEW fuels for this unit which you have never reported before.

Delete this fuel:

Check the box if you stopped using this fuel in this emission unit. You must still report for the year of record even if amount is "0" – the fuel will be removed from the unit for the next report cycle. **NOTE**: If you ceased using this fuel and "Number of fuels for this unit...." is 1, do NOT check "delete this fuel" unless you also check "Add a new fuel"; this form requires one active fuel to function properly.

1. Process Description

A brief description of the process and the types of activities performed by equipment in the emission unit (e.g., Cleaning – degreasing)

Write a brief description of the process in which the raw material is used or finished product is created.

DEP Fuel #:

This is a unique number assigned by MassDEP that allows MassDEP to recognize this fuel associated with this emission unit on future reports.

If this is a new Fuel, the field is blank and locked – MassDEP will assign this number. If this is an existing Fuel, the information will be pre-populated for existing fuels associated with this emission unit.

a. Source Classification Code (SCC)

SCC Description

The SCC is an EPA code for the type of unit operation or production process or fuel. EPA's AP-42 (https://www.epa.gov/chief) contains the codes for each type of process, as well as emission factors that can, in certain circumstances, be used to calculate emissions for each unit.

If the SCC is pre-populated, the SCC Description will also be pre-populated. If you added or changed the SCC, the system will automatically fill in the SCC Description when the form is validated.

How does eDEP use Source Classification Codes (SCC)?

SCCs are standard codes EPA uses to identify different operations and the associated emissions factors. The SCC you select is used to supply the emission factors for the automatic emissions calculation feature included in the eDEP system. The SCC also identifies the *Units per hour* which are used for your response to B.1.e: *Maximum hourly fuel rate for all firing burners*, B.2.b: *Annual usage, and the B.3 Emission Factor Units*

The list of SCC valid in eDEP can be found at: https://www.mass.gov/guides/massdep-source-registration

If the SCC listed on the form **is wrong**, enter the correct code. If the form will **not accept the SCC** you are entering, contact MassDEP at BAW.eDEP@state.ma.us.

What SCC should be used to report emissions from a natural gas distribution system?

Use the following SCC Code:

 99999999 - GHG Source Categories - Unspecified Technology - Natural Gas Distribution System - Fugitive Emissions

b. Fuel/Material/Waste Type::

This response is determined based on the SCC. If the SCC is pre-populated, this response will also be pre-populated. If you add or changed the SCC, the system will automatically fill in the Fuel Type or Raw Material/Finished Product Name or Waste Type when the form is validated.

NOTE: If multiple types of fuel are used in this emission unit you must check the "Add a New Fuel" check box to add additional Section B forms for each fuel used. Once you successfully validate the current form the system will generate a blank Section B which will be found under this form as listed on the <Transaction Overview page>.

c. Fuel/Process Description:

2. Total actual used for year of record Amount

Units per hour

Enter the amount of Fuel Type or Raw Material/Finished Product Name or Waste Type used in this emission unit during the calendar year being reported. Enter zero "0" if not used in the year of record.

IMPORTANT: You may need to convert the Amount so that the value is expressed for the units associated with the chosen SCC. For example, if the chosen SCC expresses the firing rate units in 1000 gallons/hr then 72 gallons/hr would be entered as 0.072 1000 gallons/hr.

If the SCC is pre-populated, the Units per hour will also be pre-populated. If you added or changed the SCC, the system will automatically fill in the Units per hour when the form is validated.

Prior year (Amount and Units)

This information will be provided by the system based on your last submittal. For new emission units: This section is not applicable

TIP: Compare the annual usage from prior year of record to the current year's usage as a check. If they are orders of magnitude off, check the units.

3. Total GHG emissions for this fuel only in tons per year:

Provide the following information for all pollutants emitted by the emission unit for this fuel only

BAW Source Registration &/or Greenhouse Gas Instructions GHG ONLY Emission Unit Form (for SRGHG Package) Page 172 of 230 September 2018 CO2 CH4 N2O SF6 Refrigerants-CO2e CO2e-CO2 CO2e-CH4 CO2e-N2O CO2e-SF6 CO2e-Refrigerants

Other GHG Pollutant CO2e- Other GHG Pollutant

Calculations: Read First

The form will automatically calculate the actual emissions from your annual throughput and EPA default emission factors. To calculate your own emissions, check the box next to each pollutant's name (eDEP will calculate the emissions for any pollutant where you do not check the box).

The form will automatically calculate the Carbon Dioxide Equivalent (CO2e) for each specific pollutant and the Total CO2e based on the actual emissions values; manual calculating of these values is not an option.

Why you may want to calculate your own emissions values?

The GHG emissions should be as accurate as possible, neither under- or overestimated. Please use engineering judgement to select the best information available for calculating your facility's emissions. The best information comes from CEMS, then from stack testing. If neither of these are available, use equipment_specific emission factors from the manufacturer (where such manufacturer's numbers represent actual performance rather than an emission limit the unit is guaranteed to meet) or_EPA factors when unit-specific data is not available. Please see Appendix C for more guidance on calculating your own emissions

Actual (in Tons) for previous year

This information will be provided by the system. For new emission units: This section is not applicable.

What are "actual emissions"?

Actual emissions are an estimate of the total tons of each pollutant emitted by the emission unit associated with each fuel during the year covered by the report (the year of record). eDEP will calculate the actual emissions for each fuel, unless you have checked the box next to the pollutant. Please see Appendix C for more detailed information on calculating actual emissions.

Actual (in Tons) for year of record

Put a check in the appropriate box if you choose to calculate the emissions from this fuel yourself. Otherwise the system will calculate this information for each pollutant except for those that you put a check in the box.

NOTE: although actual emissions that are less than 0.0001 are rounded to zero, when the form is validated; All values greater than or equal to zero are used to calculate the CO2e amount for each pollutant. In the validation process, the CO2e value is calculated. If the *Actual (in Tons)* for year of record is less than 0.0001, this value is changed to zero

What EF and EF units should be used to report SF6 and Refrg-CO2e emissions?

Neither SF6 nor Refrg-CO2e require a response in the fields Emission factor (EF) and in pounds per unit. These fields should auto-fill blank and be locked.

Emission factor

Provide this information only if you are calculating the emissions yourself, otherwise, the emission factor is provided based upon the SCC Code chosen for this emission unit and fuel combination.

in pounds per unit (EF units):

NEW - If you are calculating the emissions yourself, the Emission factor units must match the chosen SCC – you must pick the unit from the drop-down menu associated with the chosen SCC. The unit selected must match the unit present in the response to B.2.

What are emission factors?

Emissions factors are the **amount of pollution generated per unit of operation**. For fuels, total tons of emissions per year are obtained by the formula [**EF in lb/fuel unit] x [fuel usage] / [2000 lb per ton] =** tons per year (**TPY) of emissions**. If you allow eDEP to calculate your emissions, this field will be filled with EPA default emission factors, uncontrolled, based on the SCC. If you choose to calculate your own emissions, you must enter the emission factor that you used. The EPA emission factors used by eDEP can be found at: https://www.mass.gov/quides/massdep-source-registration.

Because they are generic, the EPA SCC emission factors are not applicable in all situations. They may overstate emissions for facilities. See Appendix C for more information about using emissions factors to calculate emissions.

Calculation Method

If the system is calculating the actual emissions for the pollutant, use GHG-EF: EPA GHG Emission Factor

If you are calculating the actual emissions for the pollutant yourself, you can choose from the following in a dropdown list:

CODE	DESCRIPTION
GHG-CEMS	Continuous Emission Monitoring System Data
GHG-User EF	User Provided GHG Emission Factor
GHG-MatlBalance	Emissions Based on Material Balance
GHG-TCR EF	General Reporting Protocol EF9

NOTE: For SF6, the Calculation Method should auto-fill with GHG-MatlBalance and the field will be locked.

Specify General Reporting Protocol EF

If you select GHG-TCR EF from the Calculation Method dropdown list, then you need to select the type of Default Emission Factor from this drop down list.

BAW Source Registration &/or Greenhouse Gas Instructions GHG ONLY Emission Unit Form (for SRGHG Package) Page 174 of 230 September 2018

⁹ The Climate Registry's General Reporting Protocol and emission factors are available on the TCR website (https://www.theclimateregistry.org/tools-resources/reporting-protocols/general-reporting-protocol/)

CO2e for previous year

For repeat filers: This information will be provided by the system.

For new emission units: This section is not applicable.

CO2e for year of record

Using the Global Warming Potential values stored in our system, the form will automatically calculate the Carbon Dioxide Equivalent (CO2e) of each pollutant where the actual emissions value is greater than zero.

NOTE: although actual emissions that are less than 0.0001 are rounded to zero, when the form is validated; all values greater than or equal to zero are used to calculate the CO2e amount for each pollutant. In the validation process, the CO2e value is calculated. If the *Actual (in Tons)* for year of record is less than 0.0001, this value is changed to zero

4 Total CO2e emissions

CO2e for previous year

This information will be provided by the system. For new emission units: This section is not applicable.

CO2e for year of record

The form will automatically calculate the Total Carbon Dioxide Equivalent (CO2e) from the Carbon Dioxide Equivalent (CO2e) of each pollutant where the actual emissions value is greater than zero.

C. NOTES

This section is to provide any additional information for any of your responses for this EU, including any child forms.

NOTE: You must click [Error Check] now to move on to the next part of the form or to create additional Section B. Fuels and Emissions Forms and then to create Section D: Total Emissions for Emission Unit. The system will force you to make any necessary corrections.

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To continue your work on this emission unit, click on the <Greenhouse Gas (Fuel#....) or GHGSecD (Total Emissions) form> you see listed under the form you were just working on.

D. TOTAL GHG EMISSIONS FOR EMISSION UNIT (SEPARATE CHILD FORM)

This form is displayed only when an emission unit has multiple Section B child forms. The form automatically calculates the total actual emissions, total carbon dioxide equivalent (CO2e) for each specific pollutant and the Total CO2e based on the actual emissions values; manual calculating of these values is not an option.

1. Total GHG Emissions for this emission unit in tons per year

Calculations: This form automatically calculates this emission unit's total actual emissions (if you have correctly provided all of the emissions for each fuel in each Section B). Return to Section B forms if you need to correct those numbers.

CO2 CH4 N2O SF6 Refrigerants-CO2e CO2e-CO2 CO2e-CH4 CO2e-N2O CO2e-SF6 CO2e-Refrigerants

What are total emissions for this emission unit?

This form automatically calculates the total actual emissions, total carbon dioxide equivalent (CO2e) for each specific pollutant and the Total CO2e from this emission unit. It calculates these values from the data you entered in Section B: Emissions for each fuel.

The actual emissions for the prior year reported Actual (in Tons) for previous year

For repeat filers: This information will be provided by the system.

For new emission units: This section is not applicable.

The actual emissions for the calendar year being reported Actual (in Tons) Emissions

This information will be provided by the system and is the sum of the emissions from each fuel

(from each Section B).

The actual emissions for the prior year reported CO2e for previous year (in Tons)

For repeat filers: This information will be provided by the system.

For new emission units: This section is not applicable.

The CO2e for each specific pollutant for the calendar year being reported CO2e year (in Tons)

This information will be provided by the system and is the sum of the emissions from each

fuel (from each Section B).

2 Total CO2e emissions

This information will be provided by the system. CO2e for previous year

For new emission units: This section is not applicable.

The Total Carbon Dioxide Equivalent (CO2e) for the calendar year being reported CO2e for year of record

This information will be provided by the system and is the sum of the emissions from each

fuel (from each Section B).

BAW AQ EU – ORGANIC MATERIAL STORAGE INSTRUCTIONS: TANK (AP-4)

PURPOSE

This form summarizes the storage tanks used and the organic materials stored or transferred for the calendar year being reported.

WHEN IS THIS FORM APPLICABLE?

This form applies if you store organic material at your facility in any below- or above-ground storage that is 500 gallons or larger.

HOW MANY VERSIONS OF THIS FORM ARE REQUIRED?

One form must be completed for each above or underground storage tank containing "Organic Material" with a capacity equal to or greater than 500 gallons. This includes waste tanks containing organic material that will be used as feed stock for a process or alternate fuel for a combustion unit

WHEN DOES A TANK NEED TO BE REPORTED?

You must complete a Tank (AP-4) Form for each tank with a capacity equal to or greater than 500 gallons; however, tanks may be combined if the combined capacity of the tanks does not exceed 50,000 gallons, they are of the same construction, and store the same material. Therefore, you cannot combine aboveground storage tanks (ASTs) with underground storage tanks (USTs). Combined ASTs require a separate AP-4 Form from USTs.

DO WASTE TANKS NEED TO BE REPORTED?

For the majority of waste tanks, these tanks do not need to be reported. It is not the intent of the Source Registration program to capture wastewater that may contain some organic material or waste tanks that contain some oil that will be disposed/treated off-site. However, waste tanks containing organic material that will be used as feed stock for a process or alternate fuel for a combustion unit must be reported on an AP-4 Form.

DO I NEED TO REPORT EMISSIONS FROM TANKS (BREATHING/STANDING, DRAWDOWN, AND TRANSFER LOSSES)? If a single tank is equal to or greater than 40,000 gallons, then it will necessary to report the tanks emissions (**breathing losses and transfer losses**) if the vapor pressure is 1.5 psia or greater. It is also required to report tank emissions from all tanks with a capacity equal to or greater than 1 million gallons. The emissions from these tanks must be reported on Process (AP-2) Form. The emissions from tanks can be reported as an additional segment on the AP-2 Form that reports the emissions resulting from the transfer operations (tank loading equipment). Report **breathing/standing** losses separately from **drawdown** losses (separate segments). All tank losses can be reported combined (as one segment for breathing loss and one segment for drawdown loss) or each tank can be reported individually for clarity. Provide the TANKS model input parameters in the notes or as an attachment.

HOW DO I REPORT LUBE OIL TANKS?

Lube oil tanks, whether they are part of a closed loop system (which incorporates a lube oil waste tank) or not, do not have to be reported as part of the Source Registration.

IS THERE A DE MINIMIS
CONCENTRATION OF ORGANIC
MATTER BELOW WHICH A FORM
IS NOT REQUIRED FOR A TANK?

No – however the objective of the Tank form is to gather data on tanks storing fuel or materials or products. It is not intended to capture wastewater that may contain some organic material. So a waste oil tank must be reported where that oil will be a feed stock or fuel, but a waste oil or waste water tank which contains some oil that will be disposed of off-site need not be reported.

CAUTION FOR FILERS WITH NEW STORAGE TANKS SINCE THEIR LAST SUBMITTAL

You must create a new emission unit form for any new emission unit. If you have not already created the new emission unit, prior to submitting your complete source registration (when first opening your source registration package), you must either:

- Under Transaction Overview, open the first form labeled <AQ Source Registration Package> or <AQ Source Registration & Greenhouse Gas Package>;
 - Under Section A, Q.1 check the box that indicates new equipment has been added;
 - Under Transaction Overview, select <New Unit Form Creator (New Form Creator)>;
 - Choose the appropriate form and enter the number of new units:
 - Validate the form by selecting [Error Check];
 - Follow subsequent instructions.

----Or----

- 2) You must create a new eDEP partial AQ Source Registration package for that emission unit. Once you have submitted the package you are working on:
 - Return to "Forms", "Air & Climate",;
 - Select your package using "Start Transaction";
 - In Overview Form: B.1: Amend a Source Registration;
 - Select "Check here to add new units";
 - Follow subsequent instructions.

IMPORTANT: Before amending your package for the current reporting year, email BAW.eDEP@state.ma.us to confirm that your submittal has been accepted by MassDEP.

CAUTION: If you realize in the midst of completing this package that you need to create additional forms, DO NOT return to the Overview form UNLESS you are willing to revalidate each previously validated form. Revalidation requires that you must open and revalidate every form in the package – you don't lose any of the data you have entered, but the process can be time consuming, particularly for a facility with more than 5-10 validated forms.

The best way to add emission units or stacks AFTER you have completed much of your package may be by submitting a supplemental package (Option 2 above).

A. EQUIPMENT DESCRIPTION

TIP: If you obtained a plan approval for the emission unit(s) you are reporting, you will have received two documents from MassDEP: a plan approval letter and a copy of the permit application that you submitted to MassDEP. It will be easier to fill out the Source Registration forms if you refer to those two documents.

1. Facility Identifiers

The name and identifying numbers of the facility that is reporting.

a. Facility Name

b. DEP Account number

c. Facility AQ Identifier

These will be pre-populated from the information on your BAW AQ Facility Information Form.

2. Emission Unit Identifiers

If this is a new Emission Unit: Assign the emission unit a name/number in order to uniquely identify it. If this is an existing Emission Unit: Assign or change the emission unit name/number in order to uniquely identify it.

a. Facility's choice of emission unit name

A unique name of your choice that will allow you to recognize this tank on future reports; Example: Methyl Ethyl Ketone Tank #1.

b. Facility's emission unit number / code

Your choice of unique number for this tank

For an existing emission unit: The information will be pre-populated, but you can change it.

CAN I CHANGE THE RESPONSES TO THE EMISSION UNIT IDENTIFIER FIELDS?

eDEP allows you to change the name (2.a) and give your own number (2.b) to each tank. MassDEP keeps track of the units by the DEP number (2.c), and therefore you cannot change MassDEP number.

c. DEP emission unit #

This number is a unique number assigned by MassDEP that allows MassDEP to recognize the unit on future reports.

If this is a new Emission Unit the field is blank and locked – MassDEP will assign this number. If this is an existing Emission Unit, the information will be pre-populated.

d. Combined Units – enter number of individual units

Enter total number of individual units combined on this form.

WHAT IS A COMBINED UNIT?

Storage containers can be combined into one unit for the purpose of Source Registration. Tanks can be combined if the combined capacity does not exceed 50,000 gallons, they are the same construction, and store the same material(s). Do not combine above ground with below ground tanks – use separate Tank (AP4) forms for each type.

NOTE: if a single tank is 40,000 gallons or larger, you may need to <u>report emissions for the tank</u> – see guestion above.

NOTE: Tanks containing wastewater with organic material and waste organic material that will be disposed of off-site need not be reported in Source Registration.

3. Emission unit installation and decommission dates

Provide the requested dates in the appropriate lines. If the unit was installed many years ago and you do not know the exact date, use your best approximation.

a. Installation date – estimate if unknown (mm/dd/yyyy)

The date on which the unit became operational. Do not leave blank. Estimate if unknown.

b. Decommission date(mm/dd/yyyy) – if applicable

Complete only if the unit was shut down permanently or replaced any time before December 31st of the year of record.

Enter a decommission date in 3.b if the unit is being **permanently taken out of service**. If the decommissioned unit operated in the year of record, the emissions from that unit must be included in this package. Therefore units "decommissioned" in this package will remain on the list of emission units for this year of record. They will NOT appear on the NEXT year of record package.

HOW / WHEN TO DELETE A UNIT?

NOTE: If you decommissioned a unit prior to the year of record (and are decommissioning it in this package) you must enter zero for the Capacity, annual Throughput in gallons, and if reporting losses on the Process Form: maximum process rate, actual emissions, and potential emissions. Failing to enter zero for the maximum process rate will cause the form to add non-zero potential emissions to the facility wide PTE on the TES.

NOTE: If this form tracks combined storage tanks, enter a Decommission Date ONLY when ALL of the storage tanks have been removed. If only a portion of the tanks have been removed, then just adjust the number in the Combined tanks field to reflect the current number of tanks.

4. Emission unit replacement

a. Is this unit replacing another emission unit?

Check the appropriate box, yes or no. If yes, then complete 4.b. Otherwise, continue on to Question 5.

b. DEP's emission unit number and facility unit name

Choose from the drop-down menu. It is populated with the emission units you decommissioned in this and previous submittals for this year of record.

HOW TO BE SURE THE UNIT BEING REPLACED APPEARS IN THIS MENU?

Line A.4.b. "DEP's emission unit number and facility's name for emission unit" are mandatory fields when the "yes" box is checked. However, the unit being replaced will not appear as a choice on the drop-down menu **until it is decommissioned**. You will not be able to complete and validate the form for a replacement unit until you have first entered a decommission date and completed and validated the form for the unit it is replacing. If this unit is replacing another unit that has NOT been "decommissioned", you must: 1) save and exit this form, 2) open the form for the unit being replaced, 3) enter the decommission date, and 4) complete and validate the form by selecting [Error Check] - before you can complete this form.

WHAT IF ONE EMISSION UNIT IS REPLACING MORE THAN ONE UNIT?

If one new tank is replacing several tanks, pick one of the units being replaced on the drop-down menu and note the others in Section B Notes.

5. Unit descriptions

Check the appropriate boxes, if other, describe.

a. Description

Above ground

Below ground

b. Roof type

Floating roof Fixed

Internal roof fixed Other - Describe

c. Height/Length - feet

d. Diameter - feet

e. Capacity - gallons

Enter tank dimensions in appropriate units.

HOW TO REPORT ON COMBINED UNITS?

If this is a combined unit, report the combined capacity of all of the tanks in Question 5e, and the total throughput for all the tanks in Questions 7g and 8g (if more than one liquid was stored). Enter the most common height and diameter in Questions 5c and 5d and most common construction type in Question 6.

NOTE: In the comment section of the form, include the locations of the combined units if they are not in the same building at the facility.

6. Construction:

Check the appropriate box:

Steel weld

Other weld

Rivet

Fiberglass

Gunite

7 – 8. Material stored and New material stored (enter new material if contents changed during year of record):

a. Name of material

Write the name of the chemical or formulation.

b. CAS number if single chemical

If it is a chemical, include the CAS number. This can be found on the MSDS for the material.

c. SCC for standing / breathing

The SCC is an EPA code for the type of unit operation or production process or fuel. EPA's AP-4 (https://www.epa.gov/chief) contains the codes for each type of process as well as emission factors

loss that can, in certain circumstances, be used to calculate emissions from each unit

The system will automatically fill in the code description. d. SCC description

WHERE DO YOU FIND SOURCE CLASSIFICATION CODES (SCC)?

SCC are standard codes EPA uses to identify different operations and the associated emissions factors. The list of SCC valid in eDEP can be found at https://www.epa.gov/chief . If the SCC code listed on the form **is wrong**, enter the correct code.

If the form will **not accept the SCC** you are entering, contact MassDEP at BAW.eDEP@state.ma.us.

The list of SCC valid in eDEP can be found at https://www.mass.gov/guides/massdep-source-

registration

This information can be found on the MSDS for the material. e. Vapor pressure PSI at 25 C

Vapor Pressure is listed on MSDS (at 25 C if possible, otherwise make note in Section B of the

temperature at which the vapor pressure is reported.)

Average Storage Temperature f. Temperature - °Fahrenheit

WHAT DO I ENTER FOR TEMPERATURE?

This field is intended to report the temperature at which the material is stored. If the tank is an underground tank, a default value of 55°F may be used if the tank is not heated or cooled. If the tank is an aboveground tank, a default vale of 48°F may be used if the tank is not heated or cooled. If the tank is inside a building, then the temperature at which the build is kept should be reported. Finally, if the tank is heated or cooled, the temperature of the contents should be reported.

Total amount (in gallons) of the material added to the storage container during the calendar year being g. Annual throughput in gallons

reported,.

Only provide this information for gasoline. h. RVP - gasoline only

Enter the Reid Vapor Pressure (RVP)

i. Total oxygen content in gallons

- gasoline only

Only provide this information for gasoline.

Obtain this from the MSDS.

j. Oxygenate name - gasoline

only

Only provide this information for gasoline.

Obtain this from the MSDS.

HOW DO I REPORT BLENDS OF GASOLINE?

If tank holds 2 blends of gasoline, enter RVP, oxygen content, and oxygenate data for one constituent in guestion 7 and the information for the other constituent blend in Question 8.

WHAT IF THERE ARE MORE THAN 2 CONTENTS DURING THE YEAR?

If there are more than 2 contents in a single reporting year, then report the 2 largest in Question 7 & 8.

Give the substances and throughputs for the others in the Notes field in Section B.

B. NOTES AND ATTACHMENTS

1 Notes: Information that will help DEP understand your submission. . If an attachment will be associated with

this form, identify any additional, explanatory material that you are choosing to submit

This section is to provide any additional information for any of your responses on this form. If you are including a document, identify any explanatory material the facility is choosing to submit along with this

form.

2. Attachments If the material can be sent electronically, check the box for the appropriate form.

Check this box if additional information will be included as an attachment. If the additional material can be sent electronically (20 MB document), check the box on the appropriate form. You will be prompted

just before Step 2 for the attachment.

NOTE: You must click [Error Check] now to move on to the next form. The system will force you to make any necessary corrections. Once you have made all of the required corrections you will be returned to the <Transaction Overview page>.

BAW AQ INSTRUCTIONS: STACK

PURPOSE

This form describes the physical characteristics of the facility's stacks: vertical release points for air emissions.

WHEN IS THIS FORM APPLICABLE?

One Stack Form must be filed for each vertical air emission release point > 10 feet tall (i.e., height > 10 feet above the roof of the building).

NOTE: Downward facing vents, horizontal vents, goosenecks, and fugitive releases are not "stacks" and do not require a separate Stack Form. Also, some units exhaust vertically, but have housings shorter than 10 ft above the roof of the building (e.g., ventilation exhausts that may be 3-5 ft tall). This type of release point does not require a Stack Form – it is considered to be a Non-Stack release point.

This form applies if your facility has a vertical stack, with or without a rain cap/sleeve. **Exclude** the following types of release points:

- Fugitive
- Horizontal
- Downward facing vent
- Gooseneck air pollution control
- Emergency Engine Exhaust
- Vertical stack/vent less than 10 feet (above the roof of the building)

HOW MANY VERSIONS OF THIS FORM ARE REQUIRED?

Submit one form for each vertical release point at your facility. You need to include forms for any stacks that were decommissioned since your last submittal as well as any stacks that were added in that time period.

CAUTION: FOR FILERS
WITH NEW STACKS
(VERTICAL RELEASE
POINTS) SINCE THEIR LAST
SUBMITTAL

You must create a new stack form for any new stack. If you have not already created the new stack, prior to submitting your complete source registration (when first opening your source registration package), you must:

- Under Transaction Overview, open the first form labeled <AQ Source Registration Package> or < AQ Source Registration & Greenhouse Gas Package>;
- Under Section A, Q.1 check the box that indicates new equipment has been added;
- Under Transaction Overview, select <New Unit Form Creator (New Form Creator)>;
- Choose the appropriate form and enter the number of new units;
- Validate the form by selecting [Error Check];
- Follow subsequent instructions.

----Or----

- 2) You must create a new eDEP partial AQ Source Registration package for that emission unit. Once you have submitted the package you are working on:
 - Return to "Forms", "Air & Climate";
 - Select your package using "Start Transaction;
 - In Preform, if correction is to a prior reporting year submittal, change the reporting year using the drop down list;
 - In Overview Form, unselect Existing Facility and put a check mark by the units that you want to amend. Or if you need to add a unit, check the box under A.1 "check if you added emission units";
 - Follow subsequent instructions pertaining to the New Unit Form Creator (New Form Creator).

IMPORTANT: Before amending your package for the current reporting year, email BAW.eDEP@state.ma.us to confirm that your submittal has been accepted by MassDEP.

CAUTION: If you realize in the midst of completing this package that you need to create additional forms, DO NOT return to the Overview Form UNLESS you are willing to revalidate each previously validated form. Revalidation requires that you open and revalidate every form in the package – you don't lose any of the data you have entered, but the process can be time consuming, particularly for a facility with more than 5-10 validated forms.

The best way to add emission units AFTER you have completed much of your package may be by submitting a supplemental package (Option 2 above).

HOW DO I ENTER IN THE FORMS UNUSUAL EXHAUSTS, SUCH AS VERTICAL VENTS?

Some units exhaust vertically, but have housings shorter than 10 ft above the roof of the building (e.g., ventilation exhausts that may be 3-5 ft tall. This type of release point does not require a Stack form – it is considered to be a Non-Stack release point.

CAUTION: REGARDING THE ORDER IN WHICH YOU COMPLETE YOUR FORMS

If this unit's emissions release point is a new "vertical release point" (stack). You must create and complete a BAW AQ Stack Form for that new stack prior to completing a Fuel Burning Device, Process or Incinerator form. The stack drop down-menu present in these three forms will not contain the new stack and you will be unable to validate any of these forms and will be forced to Save and then Exit that form. You will have to return to complete it after validating the new stack for the replacement stack.

A. STACK DESCRIPTION

NOTE: In general the information requested below will be pre-populated from MassDEP's database.

With certain exceptions, which will be noted, the preparer can edit any information listed below.

TIP: If you obtained a plan approval for the stack you are reporting you will have received two documents from MassDEP: a plan approval letter and a copy of the permit application that you submitted to MassDEP. It will be easier to fill out the Source Registration forms if you refer to those two documents.

- 1. Facility Identifiers
- The name and identifying numbers of the facility that you are reporting.
- a. Facility Name
- b. DEP Account number
- c. Facility AQ Identifier

This will be pre-populated from the information on your BAW AQ Facility Information Form.

NOTE: You cannot change the facility name on this form. To change the facility's name you must contact your MassDEP Regional Office FMF Data Manager.

CAN I CHANGE THE RESPONSES TO THE STACK IDENTIFIER FIELDS?

eDEP allows you to change the name (A.2.a) and give your own number (A.2.b) to each stack. MassDEP keeps track of the stacks by the DEP number (A.2.c) and therefore you cannot change it.

2. Stack Identifiers:

If this is a new stack: Assign the stack a name/number in order to uniquely identify it. If this is an existing stack: Assign or change the stack name/number in order to

uniquely identify it.

If this is an existing stack, the information will be pre-populated but you may change it to better identify it for your records.

a. Facility's choice of stack name

A unique name of your choice that will allow you to recognize this stack on future

reports.

b. Facility's stack number

A unique number or code of your choice that will allow you to recognize this stack on future reports. Example: Boiler #1, Emergency Generator #2, Fire Pump #3 etc.

c. DEP stack #

A unique number assigned by MassDEP that allows MassDEP to recognize the stack on future reports.

If this is a new stack the field is locked – MassDEP will assign this number. If this is an existing stack, the information will be pre-filled for existing stacks.

3. Stack type: Check the box

Vertical

Vertical with rain cap/sleeve

3.b Combined stacks

Enter the number of stacks being combined on this form.

WHEN CAN STACKS BE COMBINED ON ONE FORM?

You may report multiple stacks on one stack form in the following situations:

(1) When the units that emit through these stacks are combined -- for example, where several small boilers are combined and they each have their own stacks, then report all of those stacks on one Stack form and enter the number of stacks in the Combined Stacks field. Describe the particular situation in the Notes field of the Stack form.
(2) When one unit has multiple stacks -- again, describe the configuration in the Stack

form Notes field.

(3) When there are several identical stacks at the facility. If the stacks are exactly identical, then they may be reported on one Stack form.

HOW SHOULD THE DATA BE REPORTED?

In (1) and (2) above, the data for the stacks may not be identical:

In the name, indicate that the stacks are combined by using the word "combined".

For dimensions, give the largest.

For exit velocity and temperature, give the highest/lowest.

If materials are not the same, describe in "other".

Explain in Section C: Notes which stacks have been combined (list them) and any issues or oddities about the combined stack, include the locations of the combined stacks if they are not in the same building at the facility.

otacion il tricy are not in the came ballan

4. Dimensions:

Enter the stack dimensions
Valid range: 1 through 1300

Height in feet above the ground

Internal Diameter in feet

Valid range: 0.01 through 300

5. Gas exit velocity:

This is the range of speeds in feet per second with which the gas exits the stack.

Low end - feet per second

Valid range 0.06 through 1000

BAW Source Registration &/or Greenhouse Gas Instructions

Stack Form Page 185 of 230 September 2018 High end - feet per second

Valid range 0.06 through 1000

6. Exit temperature

This is the range of temperature in degrees Fahrenheit at which the gas exits the

stack.

Low end – ° Fahrenheit

Valid range 50 through 4000

High end – ° Fahrenheit

Valid range 50 through 4000

7. Stack liner material:

Check the appropriate box, if other describe

Metal

Brick refractory

Other: Describe "other

8. Decommission date –if applicable (mm/dd/yyyy)

Complete only if the stack was permanently removed or replaced any time before December 31st of the year of record.

Enter a decommission date in Question 8 if the stack was been **permanently removed**. If the decommissioned stack operated in the year of record, the emissions from that stack must be included in this package. Therefore stacks "decommissioned" in this package will remain on the list of stacks for this year of record. They will NOT appear on the NEXT year of record package.

WHEN / HOW TO DELETE (DECOMMISSION) A STACK?

Delete a stack when it is permanently taken out of service by entering a Decommission Date (A.8). You must complete the form for this year of record, but eDEP will know to remove it from your next year of record package.

NOTE: Enter a Decommission Date ONLY when ALL of the stacks have been removed. If only a portion of the stacks have been removed, then just adjust the number in the Combined Stacks field to reflect the current number of stacks.

B. EMISSION UNITS ASSOCIATED WITH STACK

These fields are provided for information only. You cannot change them on this form.

They show which emission units are associated with this stack based on your facility's existing data PRIOR to this package being submitted. Any changes made to the EU forms will not be displayed here until this package has been submitted.

If you want to change these associations, you must do so on the appropriate emission unit form:

- Fuel Burning Device (AP1)
- Process (AP2)
- Incinerator (AP3)

Note: Any changes you make to these associations will not show up on this form until you have submitted your entire package to MassDEP.

C. NOTES AND ATTACHMENTS

1 Notes:

Information that will help MassDEP understand your submission. . If an attachment will be associated with this form, identify any additional, explanatory material that you are choosing to submit

This section is to provide any additional information for any of your responses on this form. If you are including a document, identify any explanatory material the facility is choosing to submit along with this form.

2. Attachments

If the material can be sent electronically, check the box for the appropriate form. Check this box if additional information will be included as an attachment. If the additional material can be sent electronically (20 MB document), check the box on the appropriate form. You will be prompted just before Step 2 for the attachment.

NOTE: You must click [Error Check] now to move on to the next form. The system will force you to make any necessary corrections

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To continue your work on this emission unit, click on the next form you see listed under the form you were just working on.

BAW AQ TOTAL EMISSIONS STATEMENT (TES) INSTRUCTIONS & HAZARDOUS AIR **POLLUTANT (HAP) LIST**

PURPOSE This summarizes the annual air pollution emissions for the facility.

WHO MUST FILE THIS FORM? This form must be completed for each facility's package.

HOW MANY VERSIONS OF THIS FORM ARE REQUIRED?

One form is necessary when the submittal contains a -form for an emission unit. If the submittal is only amending/correcting information on the Facility Information, Stack or Tank forms, the

TES form is not necessary.

WHEN IS THIS FORM APPLICABLE?

This form applies to all filers except if the submittal is amending/correcting information on the Facility Information, Stack or Tank forms.

This form applies to all filers except if the submittal is amending/correcting information on the Facility Information, Stack or Tank forms, the Total Emission Statement form is not necessary.

CAUTION: REGARDING THE ORDER IN WHICH YOU COMPLETE YOUR FORMS

The TES is the last form you should complete and validate in your package. Any changes made to the following forms: Fuel Burning (AP1), Process (AP2), Incinerator (AP3), and GHG Only (if submitting a SRGHG package) will REQUIRE the revalidation of your TES form.

A. ANNUAL TOTAL EMISSIONS STATEMENT

This form automatically calculates the facility's total actual and potential emissions based on the information you provided on Fuel Burning Device (AP1), Process (AP2), Incinerator (AP3), and GHG Only (if submitting a SRGHG package with EUs not required to report SR emissions) forms. If you need to correct your actual or potential emissions, return to the individual emission unit forms to correct those numbers.

The name and identifying numbers of the facility that is reporting. 1. Facility Identifiers

a. Facility Name

b. DEP Account number

c. Facility AQ Identifier

This will be pre-populated from the information on your Facility Information Form.

NOTE: You cannot change the facility name on this form. To change your facility's name, you must contact your MassDEP Regional Office FMF Data Manager.

2. Total Emissions

This form calculates the facility's actual and potential emissions by adding the emissions data entered in the form for each emission unit. The results are displayed in the table below.

NOTE: You must validate the forms for each emission unit before the results displayed below can be calculated. To enter Hazardous Air Pollutant (HAP) emissions, see Section D.

PM10-FIL PM2.5-FIL PM-CON SO2 VOC NH3 CO NO2

HOW ARE TOTAL EMISSIONS CALCULATED?

When you open this form, eDEP sums the emission data from all of the emission units at this facility for which you have submitted data for the current year of record.

These fields are locked; you cannot edit these values.

The values displayed in the table will not reflect total facility emissions until all emission units at your facility are updated for the current year of record.

3. Facility-wide Emission Limits

Please enter facility-wide annual or short-term emission limits below, if any. To enter HAP restrictions, see Section D.

Total Emissions -

This form reports the total actual and potential facility-wide emissions for each contaminant (excluding 'other') you reported on the forms that you have filled out and validated for this year. (If you have not filled out and validated all of the required emission unit forms, the data on this form will understate your facility-wide emissions.)

Contaminants include:

PM10<mark>-FIL</mark> PM2.5<mark>-FIL PM-CON</mark> SO2 PB VOC NH3 CO NO2

NOTE: GHG emissions (if submitting a SRGHG package) will appear in Section B: Greenhouse Gas below

Actual for previous year

For repeat filers: This information will be provided by the system. For new emission units: This information is not applicable.

Actual for year of record

The information will have been calculated automatically on the basis of the information you provided on the Fuel Burning Device (AP1), Process (AP2), and Incinerator (AP3) forms.

Potential emissions at maximum capacity

NOTE: All fields associated with "facility-wide max allowed" information **are unlocked**.

Facility-wide max allowed (permitted) emissions-annual:

Provide this information if there is a plan approval or a regulation with a facility-wide restriction on emissions.

Facility-wide max allowed (permitted) emissions- short term:

Maximum short term emissions allowed pursuant to your permit or plan approval or regulatory restriction based on a short term period of day, hour, week, month or Million BTUS. Select the appropriate response from the drop down list

Short term period:

NOTE: This applies to restrictions on emissions ONLY. Restrictions on fuel use, raw material use or products are reported in Question 4.

NOTE: Only enter restrictions that apply to the entire facility. Many restrictions apply only to a particular emission unit. Those have already been reported on the emission unit's form.

Basis: DEP approval number or regulation:

Provide either the plan approval or regulation establishing the emission limits

WHEN DO I COMPLETE THE "MAX-ALLOWED" (PERMITTED) EMISSION FIELDS?

Complete the "maximum allowed emissions" fields if there is an annual or a short-term emission limitation applicable to the facility as a whole expressed in either a DEP approval or a regulation. Be sure to enter the approval number or regulation under "Basis".

For example, a facility-wide emission limit from a plan approval such as 45 TPY of oxides of nitrogen, or 99 tons per year of particulate matter.

IF THE RESTRICTION IS MENTIONED IN MULTIPLE APPROVALS:

Enter the most recent approval number for the restriction.

4. If you have facility-wide fuel, raw materials, or product restrictions, complete the following:

Provide the requested information for each facility-wide restriction, otherwise leave blank

DEP approval number (most recent)

Amount of restriction

Restriction units (e.g., gallons, tons)
Per unit time (e.g., yr, mo, wk, day, hr)

Description of fuel, raw material or product restricted.

NOTE: Only enter restrictions that <u>apply to the entire facility</u>. Many restrictions apply only to particular emission units. Those have already been reported on the emission unit's forms.

WHEN DO I COMPLETE THE FACILITY-WIDE RESTRICTION FIELDS?

Complete Question 4 fields, if there is an annual or a short-term restriction (other than emissions), which applies to the whole facility. For example, a facility-wide limit from a plan approval for xxx gallons of fuel per month and xxxx gallons per year OR a limit on the hours of operation or a production limit.

IF THE RESTRICTION IS MENTIONED IN MULTIPLE APPROVALS:

Enter the most recent approval or regulation.

B. GREENHOUSE GAS (GHG) LIST (FOR SR ONLY PACKAGE)

WHAT ARE THE THRESHOLDS FOR REPORTING GREENHOUSE GASES?

There are no thresholds – if your facility, to the best of your knowledge, uses or emits any amount of these substances, check the appropriate box/es.

NOTE: This does NOT include refrigeration equipment and other similar sealed systems (unless the facility services or manufactures such systems). This also does NOT include products of combustion.

Use Emitted

Please indicate which – if any - of the following greenhouse gas chemicals are used and/or emitted by checking the appropriate box:

Check the appropriate box(es) for each chemical.

Nitrous oxide N2O

Hydrofluorocarbons (HFC's)

Sulfur Hexafluoride (SF6)
Perfluorocarbons (PFCs)

B. GREENHOUSE GAS (GHG) EMISSIONS (FOR SRGHG PACKAGE)

The form automatically calculates the total actual emissions, totals for each individual 1. Total GHG Emissions:

GHG expressed as carbon dioxide equivalent (CO2e), and the facility's total CO2e by adding the emissions data entered in the form for each emission unit. You must validate

the forms for each emission unit before the total values can be calculated.

CO2 CH4 N20 SF6 Refrigerants-CO2e CO2e-CO2 CO2e-CH4 CO2e-N2O CO2e-SF6 CO2e-Refrigerants

For repeat filers: This information will be provided by the system. Actual for previous year

For new emission units: This information is not applicable.

The information will have been calculated automatically on the basis of the information Actual for year of record

you provided on the Fuel Burning Device (AP1), Process (AP2), Incinerator (AP3), and

GHG Only

For repeat filers: This information will be provided by the system. CO2e for previous year

For new emission units: This information is not applicable.

The information will have been calculated automatically on the basis of the information CO2e for year of record

you provided on the Fuel Burning Device (AP1), Process (AP2), Incinerator (AP3), and

GHG Only

2. Total CO2e Emissions

For repeat filers: This information will be provided by the system. Actual for previous year

For new emission units: This information is not applicable.

Actual for year of record The information will have been calculated automatically on the basis of the information

you provided on the Fuel Burning Device (AP1), Process (AP2), Incinerator (AP3), and

GHG Only

C. HAZARDOUS AIR POLLUTANT (HAP) LIST

WHAT IS A HAP?

Hazardous Air Pollutants (HAPs) are those labeled as such by the US EPA under Section

112 of the Clean Air Act as listed in Section C of this form.

NOTE: for the purposes of this section (C), HAPs do not include products of combustion, components of a fuel, or materials used in a sealed system such as a condenser.

WHAT ARE THE THRESHOLDS FOR REPORTING HAPS IN THIS SECTION?

If you use 500 GALLONS or more OR use 1 TON or more OR emit more than 1 TON of any individual Hazardous Air Pollutant (HAP) listed per year, check the appropriate boxes. Do not include products of combustion, components of a fuel, or materials used in a sealed system such as a condenser when estimating your emissions of an individual HAP.

1. Does your facility use any of the Hazardous Air Pollutant chemicals regulated under Section 112 of the Clean Air Act listed below and on the following pages?

Check the appropriate yes or no box

If no, skip to Section D

If yes, place a check in the use box for all chemicals that you use and in the emit box for all chemicals that you emit.

Use Emitted

List of Hazardous Air Pollutants (HAP)

NOTE: In general you emit all chemicals that you use. If you emit a chemical you must, by definition also "use" it.

D. HAZARDOUS AIR POLLUTANT EMISSIONS

NOTE: for the purposes of this section (D), HAPs do not include products of combustion, or components of a fuel.

1. Does the facility have the potential to emit (PTE) 10 tons of any single listed Hazardous Air Pollutant (HAP)

Answer Yes or No as appropriate.

Potential emissions are the maximum allowable emissions under the terms of the applicable plan approval, or, if no plan approval is required, under the applicable regulations.

See the Appendix C: Example Calculations.

CAUTION: Pay CLOSE attention to the "potential emissions" calculations, because potential emissions help to define the regulatory requirements to which your facility is subject.

For example,

- ✓ If your facility-wide potential emissions exceed the major source thresholds for any air contaminant including HAPs, you are required to obtain an air operating permit pursuant to 310 CMR 7.00: Appendix C, or to restrict your emissions through a federally enforceable permit (RES) pursuant to (310 CMR 7.02(9)). Contact your MassDEP regional office if you exceed a major source threshold and you have not filed an application for an air operating permit or a RES. The names and addresses of the Regional Offices are listed in Appendix F.
- ✓ Similarly, if your potential emissions of Hazardous Air Pollutants (HAPS) exceed the applicable Maximum Achievable Control Technology (MACT) standard threshold (for most standards, this is a major source threshold) in 40 CFR Part 63 as of the substantive compliance date for that standard, EPA policy states that your facility would NOT be allowed to restrict your potential emissions below the applicable MACT threshold. Thus, according to EPA policy, unless you restrict your facility's potential emissions to under the threshold BEFORE the substantive compliance date, your facility would be required to comply with the MACT standard. Furthermore, as a consequence of being subject to a MACT standard, you would be required to obtain an operating permit for your facility, pursuant to 310 CMR 7 Appendix C. The list of MACT standards and their substantive compliance dates can be found in Appendix E.

DO YOU NEED AN AIR OPERATING PERMIT?

If you answer yes to Questions 1 or 2, the facility exceeds the applicability thresholds for the federally mandated operating permit program. Contact your Regional MassDEP Permit section for information.

2. Does the facility have the potential to emit (PTE) a total of 25 tons of any combination of listed Hazardous Air Pollutants (HAPs)?

Answer Yes or No, as appropriate.

Please refer to the cautions about potential emissions in the Question D1 above.

ARE YOU SUBJECT TO TURA?

If you manufacture, process, or otherwise use more than 10,000 lbs of any one Toxics Use Reduction (TURA) chemical during the calendar year you may be subject to TURA reporting. Certain PBT chemicals have lower reporting thresholds. Visit the MassDEP TURA website at https://www.mass.gov/guides/massdep-toxics-use-reduction-program for more information.

3. Does the facility have a restriction on total HAPS?

Answer Yes or No, as appropriate.

You must answer Yes, if you have any restriction on any facility-wide or emission unit restriction on any HAP.

NOTE for Municipal Waste Combustors: Your facility has restrictions on certain HAPS. You must answer yes.

4. Are you required to report HAP emissions for any other reason? (e.g. a permit condition)

Answer Yes or No, as appropriate.

5. If you answered "yes" to any of the Questions 1 – 4 above, eDEP will generate additional pages in which you may enter those emissions. If you answered no, proceed to E. Notes and Attachments.

If you answered yes, proceed to E. Notes and Attachments.

Validate the form by selecting [Error Check]: the system will identify and force you to correct any mistakes before it will "accept" the form and return you to the <Transaction Overview> page. Once this form is validated, the system will provide additional forms for entering HAP emissions. To continue your work on this form, click on the <TES HAP> form, you see listed under the form you just completed.

E. NOTES AND ATTACHMENTS

1 Notes:

Information that will help MassDEP understand your submission. . If an attachment will be associated with this form, identify any additional, explanatory material that you are choosing to submit

2. Attachments

This section is to provide any additional information for any of your responses on this form, including any child forms. If you are including a document, identify any explanatory material the facility is choosing to submit along with this form.

If the material can be sent electronically, check the box for the appropriate form. Check this box if additional information will be included as an attachment. If the additional material can be sent electronically (20 MB document), check the box on the appropriate form. You will be prompted just before Step 2 for the attachment.

NOTE: You must click [Error Check] now to move on to the next form. The system will force you to make any necessary corrections

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To continue your work on this submittal, click on the next form you see listed under the form you were just working on.

NOTE: If HAP emissions' reporting is not required, you have completed the TES Form. See section: COMPLETION OF YOUR SUBMITTAL If HAP emissions' reporting is required, you must complete the forms for Section F and Section G

F. HAZARDOUS AIR POLLUTANT EMISSIONS

(YOU WILL FIND THIS SECTION IN A SEPARATE FORM UNDER THE TES FORM IF YOU NEED TO REPORT HAPS).

Emissions (in tons/year): Enter the actual and unrestricted potential emissions for your largest single HAP your facility emitted the most of for this year of record. Enter emissions for any additional HAPs, and then validate the form by selecting [Error Check]. Do not enter Total HAP emissions here. eDEP will present another form for Total HAPs after you validate this form.

Max Allowable Emissions (in tons per year): Enter only restrictions (limits) that apply to the entire facility. If there are no such restrictions, leave blank.

WHERE DO YOU ENTER TOTAL HAP EMISSIONS?

On the NEXT form, Section G. After you validate this form, eDEP will generate the HAP Total form, where you enter your facility-wide total HAP emissions and any FACILITY-WIDE restrictions.

WHICH HAPS MUST BE REPORTED?

If you answered YES to any of the Questions D1-D4, enter your individual HAP emissions for the year in the fields provided. If you need an additional HAP form, eDEP will generate the forms needed to enter the data.

NOTE: You also need to report emission for any HAP for which you have an emissions restriction.

This form reports your total actual and potential facility-wide HAPS emissions for this year, as well as, displays the HAP emissions reported on your previous submittal.

There is a set of lines for 6 HAPS. If you have more HAPS then you must:

- 1. Fill in the information for the first six.
- 2. Click YES, in response to the question at the bottom of the form: "Do you have emissions to report for individual HAPs in addition to those above?"
- 3. Validate the form by selecting [Error Check] and correct any errors.
- 4. The system will generate an additional HAP emissions forms (you will be returned to the <Transaction Overview> page).
- 5. Complete and validate that form.

HAP name Provide the HAP name

CAS # for individual HAPs, if applicable:

Write the CAS number, if the HAP is an individual chemical. This can be found on the MSDS for the material.

Actual for previous year

For repeat filers: This information will be provided by the system.

For new HAPs: This section is not applicable.

Actual for year of record

Calculate and enter this information.

Potential Emissions (in Tons)

Calculate this information. (See Appendix C: Example Calculations.)

The definition of Potential Emissions in 310 CMR 7.00 takes into account the restrictions of a plan source's plan approval(s), approved emission control plan(s), operating permit, certification(s), restricted emission status, notification(s) and applicable regulations. If you have a restriction that meets one of these conditions for this emission unit AND raw material/finished product/fuel, you may list that pollutant's potential emissions number here AND in the next section. However, if this emission unit AND raw material/finished product/fuel does not have a restriction, the number entered here should be based on maximum uncontrolled emissions

Potential emissions are the maximum uncontrolled emissions assuming the emission unit operates at maximum capacity 24 hours per day, 7 days a week, 52 weeks a year (8760 hours per year)..

NEW You may apply controls and restrictions to calculation the potential emissions only under the following conditions (see 310 CMR 7.00 Definitions, potential emissions): any physical or operational limitation on the capacity of the unit to emit any air contaminant or pollutant, including air pollution control equipment and/or restrictions on hours of operation, or on the type or amount of material combusted, stored or processed, shall be treated as part of the design **only if** the limitation is specifically stated in the facility's or stationary source's plan approval(s), approved emission control plan(s), operating permit, certification(s), restricted emission status, notification(s) and applicable regulations, or in the case of de minim is sources, in records established and maintained at the facility pursuant to 310 CMR 7.02(2)(b).

ENTER "0" if the unit was decommissioned prior to this year of record because the unit did not represent potential emissions during the year of record.

IMPORTANT. For each pollutant where your potential emission is based on controls and/or restrictions, you MUST also update the field "maximum allowed emissions – annual" with this same value.

What are potential emissions?

The emissions resulting from the maximum operation of the equipment irrespective of any regulatory restrictions. (8760 hrs X Max Firing Rate X Emission Factor)

NEW: you may apply controls and restrictions to calculation the potential emissions only under the following conditions (see 310 CMR 7.00 Definitions, potential emissions): any physical or operational limitation on the capacity of the unit to emit any air contaminant or pollutant, including air pollution control equipment and/or restrictions on hours of operation, or on the type or amount of material combusted, stored or processed, shall be treated as part of the design **only if** the limitation is specifically stated in the facility's or stationary source's plan approval(s), approved emission control plan(s), operating permit, certification(s), restricted emission status, notification(s) and applicable regulations, or in the case of *de minim is* sources, in records established and maintained at the facility pursuant to 310 CMR 7.02(2)(b).

IMPORTANT: For each pollutant where your potential emission is based on controls and/or restrictions, you MUST also update the field "maximum allowed emissions – annual" with this same value.

Facility-wide permitted--annual:
Facility-wide permitted--- short term:

Short term period:

Basis: DEP approval number or regulation:

Enter the requested information.

Maximum short term emissions allowed pursuant to your permit or plan approval or regulatory restriction based on a short term period of day, hour, week, month or Million BTUS. Select the appropriate response from the drop down list

NOTE: This applies to facility-wide HAP restrictions ONLY.

NOTE: Only enter restrictions that apply to the entire facility. Many restrictions apply only to particular emission units. Those should have already been reported on the emission unit form.

NOTE: You must click [Error Check] now to move on to the next form. The system will force you to make any necessary corrections

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. To continue your work on this submittal, click on the next form you see listed under the form you were just working on.

G. HAZARDOUS AIR POLLUTANT (HAP) EMISSIONS TOTAL

Total HAP Emissions (in tons/year): Enter the actual, potential, and permitted TOTAL HAP Emissions your facility emitted for this year of record. It also displays prior year total facility-wide HAP emissions

Max Allowable Emissions (in tons per year): Enter only restrictions (limits) that apply for TOTAL HAP Emissions to the entire facility. If there are no such restrictions, leave blank.

1. Total HAP Emissions Enter your Total HAP emissions for the facility below. Please enter any facility-wide restrictions

on Total HAPs below as well.

a. Actual for previous year For repeat filers: This information will be provided by the system.

For new facilities: This information is not applicable.

b. Actual for year of record Calculate and enter this information.

c. Potential Emissions (in Tons)

Calculate this information. (See Appendix C: Example Calculations.)

The definition of Potential Emissions in 310 CMR 7.00 takes into account the restrictions of a plan source's plan approval(s), approved emission control plan(s), operating permit, certification(s), restricted emission status, notification(s) and applicable regulations. If you have a restriction that meets one of these conditions for this emission unit AND raw material/finished product/fuel, you may list that pollutant's potential emissions number here AND in the next section. However, if this emission unit AND raw material/finished product/fuel does not have a restriction, the number entered here should be based on maximum uncontrolled emissions

Potential emissions are the maximum uncontrolled emissions assuming the emission unit operates at maximum capacity 24 hours per day, 7 days a week, 52 weeks a year (8760 hours per year)..

NEW You may apply controls and restrictions to calculation the potential emissions only under the following conditions (see 310 CMR 7.00 Definitions, potential emissions): any physical or operational limitation on the capacity of the unit to emit any air contaminant or pollutant, including air pollution control equipment and/or restrictions on hours of operation, or on the type or amount of material combusted, stored or processed, shall be treated as part of the design **only if** the limitation is specifically stated in the facility's or stationary source's plan approval(s), approved emission control plan(s), operating permit, certification(s), restricted emission status, notification(s) and applicable regulations, or in the case of de minim is sources, in records established and maintained at the facility pursuant to 310 CMR 7.02(2)(b).

ENTER "0" if the unit was decommissioned prior to this year of record because the unit did not represent potential emissions during the year of record.

IMPORTANT: For each pollutant where your potential emission is based on controls and/or restrictions, you MUST also update the field "maximum allowed emissions – annual" with this same value.

What are potential emissions?

The emissions resulting from the maximum operation of the equipment irrespective of any regulatory restrictions. (8760 hrs X Max Firing Rate X Emission Factor)

NEW: you may apply controls and restrictions to calculation the potential emissions only under the following conditions (see 310 CMR 7.00 Definitions, potential emissions): any physical or operational limitation on the capacity of the unit to emit any air contaminant or pollutant, including air pollution control equipment and/or restrictions on hours of operation, or on the type or amount of material combusted, stored or processed, shall be treated as part of the design **only if** the limitation is specifically stated in the facility's or stationary source's plan approval(s), approved emission control plan(s), operating permit, certification(s), restricted emission status, notification(s) and applicable regulations, or in the case of *de minim is* sources, in records established and maintained at the facility pursuant to 310 CMR 7.02(2)(b).

IMPORTANT: For each pollutant where your potential emission is based on controls and/or restrictions, you MUST also update the field "maximum allowed emissions – annual" with this same value.

d. Max allowed emissions (permitted) -annual:

Enter the requested information.

e. Max allowed emissions (permitted) – short term:

Maximum short term emissions allowed pursuant to your permit or plan approval or regulatory restriction based on a short term period of day, hour, week, month or Million BTUS. Select the appropriate response from the drop down list

f. Short term period:

NOTE: Only enter restrictions that apply to the entire facility. Many restrictions apply only to particular emission units. Those have already been reported on the emission unit forms

NOTE: This applies to facility-wide HAP restrictions ONLY. Restrictions on fuel use, raw material use or products are reported in TES Form Section A Question 4.

g. Basis for max allowed emissions:

DEP approval number or regulation.

NOTE: You must click [Error Check] now to move on to the next form. The system will force you to make any necessary corrections

Once you have made all of the required corrections you will be returned to the <Transaction Overview page>. See section: COMPLETION OF YOUR SUBMITTAL

COMPLETION OF YOUR SUBMITTAL

RESPONSIBLE OFFICIAL'S (RO) SIGNATURE

Once the Total Emissions Statement (TES) Form has been validated, it will be necessary for the (RO) to electronically sign the document. In most cases, this will require the preparer to share the document with the RO.

SHARING A PACKAGE

The Share feature allows you to assign rights to edit, sign, or submit a package -

To share your package:

- 1. From the <Transaction Overview page>, select Share Transaction.
- 2. On the Share Submittal page, select the add button
- 3. When Add button selected, enter the Responsible Official's nickname in the "Share With" field, for "Role" select Editor&Signer (this allows the RO to edit, sign & submit the package), and include an end date for sharing the submittal.
- 4. Select the Add button again at the bottom of the page
- 5. The RO's first and last name with the role will appear in the Shared With field.
- 6. Once you have confirmed the RO contact information is correct, select the back button to return to the <Transaction Overview page>.

NOTE: In order for the RO to sign and submit the package, assign the role of Editor & Signer

ELECTRONICALLY SIGNING YOUR PACKAGE

To electronically sign the package, the RO will need to sign in using his own username and password. Once signed in, he can access source registration package from his home page. It should be a package with the status "Work in Progress". Once the "Active" package is opened, the RO will need to "click" on "Step 2 Acceptance (Signature)".

Once inside the Step 2 process, the RO needs to click on the checkbox "CERTIFICATION FOR ALL FORMS IN THIS PACKAGE." By checking this box, you are certifying that the information contained within the submittal is complete and correct to the best of your knowledge. The RO will then need to type his name in the appropriate area. The date should have pre-populated with the correct date; however, if not type in the correct date. The RO will then need to "Accept" the submittal.

SUBMITTING YOUR PACKAGE.

After accepting the submittal, the RO can proceed to Step 3 and submit the package by "clicking" on "Step 3 Submit".

This completes the reporting process.

PRINTING A COPY/SAVING AN ELECTRONIC COPY

There is only one job left to complete. Print out or electronically save a copy of the submittal so that it is readily accessible if it is ever necessary to reference the document. This can be done by "clicking" on the link "Download" found on your my eDEP page and following the instructions listed on that page. Because the documents are "processed to be printed" in the order the requests are received, it may take a while to complete this task. You can log out and sign back in at a later date to finish printing a copy, saving an electronic copy, or both.

IMPORTANT: You may be requested to present your emissions report during an inspection of your facility or at any other time upon request by MassDEP.

APPENDICES

SOURCE REGISTRATION and/or GREENHOUSE GAS PACKAGE

APPENDIX A: DEFINITIONS

ACTUAL EMISSIONS

Actual Emissions means the rate that an emission unit or facility discharges air contaminants into the ambient air. This can be calculated on a daily, weekly, monthly, ozone season, 12-month rolling, calendar year basis or other time period as determined by the requirements of the applicable regulation(s). Actual emissions shall be calculated using the unit's actual operating hours, production rates, and types of materials processed, stored, or

combusted during the selected time period including the efficiency of pollution control equipment, if present.

AIR CONTAMINANT

AIR CONTAMINANT means any substance or man-made physical phenomenon in the ambient air space and includes, but is not limited to, dust, flyash, gas, fume, mist, odor, smoke, vapor, pollen, microorganism, radioactive material, radiation, heat, sound, any combination thereof, or any decay or reaction product thereof.

AREAS OF CRITICAL CONCERN

Towns for which there are more stringent emission fuel standards:

Adams Haverhill Amherst Holden Arlington Holyoke Athol Lawrence Attleboro Lee Auburn Leicester Belmont Leominster Boston Longmeadow Boylston Lowell Braintree Ludlow **Brookline** Lvnn Malden Cambridge Canton Medford Chelsea Melrose Chicopee Millbury Dalton Milton Dedham Needham East Longmeadow New Bedford Easthampton Newburyport Everett Newton Fall River North Adams Fitchburg Northampton Gardner Orange Grafton Palmer Greenfield Peabody Pittsfield Hadley

Quincy Revere Salem Sandwich Saugus Shrewsbury Somerset Somerville Southbridge Springfield Stoneham Taunton Wakefield Waltham Ware Watertown Webster West Boylston West Springfield Westfield Wevmouth Winchester Winthrop Woburn Worcester

BEST AVAILABLE CONTROL TECHNOLOGY (BACT)

BACT means an emission limitation based on the maximum degree of reduction of any regulated air contaminant emitted from or which results from any regulated facility which the Department, on a case-by-case basis taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems and techniques for control of each such contaminant. The best available control technology determination shall not allow emissions in excess of any emission standard established under the New Source Performance Standards, National Emission Standards for Hazardous Air Pollutants or under any other applicable section of 310 CMR 7.00, and may include a design feature, equipment specification, work practice, operating standard, or combination thereof.

CALCULATION METHOD TYPE

The method used to determine the Source Registration emissions. The methods are assigned the following codes:

DESCRIPTION			
Continuous Emission Monitoring System			
Engineering Judgment			
Material Balance			
Stack Test (no Control Efficiency used)			
Manufacturer Specification			
Site-Specific Emission Factor (no Control Efficiency used)			
Vendor Emission Factor (no Control Efficiency used)			
Trade Group Emission Factor (no Control Efficiency used)			
Stack Test (pre-control) plus Control Efficiency			
USEPA Emission Factor (pre-control) plus Control Efficiency			
S/L/T Emission Factor (pre-control) plus Control Efficiency			
Site-Specific Emission Factor (pre-control) plus Control			
Efficiency			
Vendor Emission Factor (pre-control) plus Control Efficiency			
Trade Group Emission Factor (pre-control) plus Control			
Efficiency			
Other Emission Factor (pre-control) plus Control Efficiency			

Used for auto-calculation

The method used to determine the Greenhouse Gas emissions.

The methods are assigned the following codes:

	The methods are assigned the following codes.				
	CODE	DESCRIPTION			
	GHG-TCR EF	General Reporting Protocol EF ¹⁰			
	GHG-CEMS	Continuous Emission Monitoring System Data			
	GHG-EPA EF	EPA GHG Emission Factor			
	GHG-MatlBalance	Emissions Based on Material Balance			
	GHG-User EF	User Provided GHG Emission Factor			

Used for auto-calculation

CHEMICAL ABSTRACT SERVICE (CAS) NUMBER

The number assigned by the Chemical Abstract Service to each individual chemical compound.

NOTE: HOCs, HYCs, VOCs all are individual chemical compounds and have a CAS number.

Formulations and fuels are mixtures of chemicals and do NOT have CAS numbers. The individual components of the formulation have CAS numbers however, and these numbers are listed on the MSDS for the formulation.

BAW Source Registration &/or Greenhouse Gas Instructions APPENDIX A: DEFINITIONS Page 203 of 230 September 2018

¹⁰ The Climate Registry's General Reporting Protocol and emission factors are available on the TCR website (https://www.theclimateregistry.org/tools-resources/reporting-protocols/general-reporting-protocol/)

CLEAN AIR ACT CHEMICAL (CAA CHEMICAL)

An air contaminant regulated by the Federal Clean Air Act. This includes criteria air pollutants, Hazardous Air Pollutants (HAP) pursuant to 42 U.S.C. 7401, Section 112 or any other substance regulated as a criteria pollutant, or any substance regulated pursuant to a New Source performance Standard (NSPS) under 40 CFR 60, or pursuant to a National Emission Standard for Hazardous Air Pollutants (NESHAPs) under 40 CFR 61 and 63.

COMBUSTION DEVICE

Combustion device means all equipment, including, but not limited to, thermal incinerators, catalytic incinerators, flares, boilers, and process heaters used for combustion of organic vapors.

NOTE: For purposes of submitting a Source Registration package, any air pollution control device that uses fuel to operate is NOT listed as an individual emission unit. Instead it is identified as a control device in response to a question for the emission unit.

CRITERIA POLLUTANT

One of the following compounds regulated by the Federal Clean Air Act and 310 CMR 7.0: ozone (O3), PM10, sulfur oxides measured as sulfur dioxide (SO2), nitrogen dioxide (NO2), volatile organic compounds (VOC) as non-methane hydrocarbons, carbon monoxide (CO) or lead (Pb), or any other air contaminant for which national ambient air quality standards have been adopted.

EMISSION UNIT (EU)

Any individual piece of equipment from which any air contaminant is emitted to the ambient air space, for example, an individual boiler, a single degreaser, etc.

ENFORCEABLE LIMIT

An operating restriction in a federally enforceable permit, plan approval, or certification, or a state or federal air pollution control regulation.

FACILITY-WIDE POTENTIAL EMISSIONS:

Facility-wide potential emissions are the maximum emissions that a facility is legally allowed to release. Normally facility-wide potential emissions equal the sum of the potential emissions for each emission unit. However some facilities have enforceable limits that imposed facility-wide restrictions on their operating rates or emissions. In this case facility-wide potential emissions equal the facility-wide restrictions. Examples include facilities with 25% or 50% Certifications pursuant to 310 CMR 7.02 (11). Facility-wide potential emissions of a contaminant for such facilities equal 25% of the major source threshold for that air contaminant or 50% of the major source threshold for that contaminant, respectively. See Major Source Thresholds for the thresholds for each air contaminant.

FEDERALLY ENFORCEABLE

FEDERALLY ENFORCEABLE means all limitations and conditions which are enforceable by the Administrator, including but not limited to, those requirements developed pursuant to 40 CFR Part 60 (New Source Performance Standards), 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants), 40 CFR Part 63 (National Emission Standards for Hazardous Air Pollutants for Source Catergories), 40 CFR Parts 72 through 80 (Acid Rain Program) and requirements within the Massachusetts State Implementation Plan. Federally enforceable requirements also include those requirements in operating permits issued either pursuant to 40 CFR Part 71 or under 310 CMR 7.00: *Appendix C*, (except those listed as state enforceable only) any permit requirements established pursuant to 40 CFR 52.21 (Prevention of significant deterioration of air quality), under plan approval requirements in either 310 CMR 7.02 or 7.00: *Appendix A*. Federally enforceable limitations and conditions can also be contained in either a permit restriction issued under 310 CMR 7.02(9), (10), (11) or equipment installed under 310 CMR 7.03, that has been made federally enforceable after the EPA has approved 310 CMR 7.02 and 7.03 into the Massachusetts SIP.

FEDERAL POTENTIAL EMISSIONS

FEDERAL POTENTIAL EMISSIONS or FEDERAL POTENTIAL TO EMIT means the maximum capacity of a stationary source to emit a regulated pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a regulated pollutant, including air pollution control equipment and restriction on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design only if the limitation or the effect it would have on emissions is federally enforceable. To be federally enforceable, a limitation on any facility's capacity to emit a pollutant shall include testing, monitoring, and recordkeeping procedures sufficient to demonstrate compliance with the limitations. Examples of permit or SIP limitations generally considered federally enforceable are limitations on the allowable capacity of the equipment. requirements for the installation, operation and maintenance of pollution control equipment, limits on hours of operation, and restrictions on amounts of materials combusted, stored, or produced. To be federally enforceable, restrictions on operation, production, or emissions must be stated in terms of the shortest averaging time that can be used as a practical matter, e.g., pounds per hour, or gallons per hour, and they must be tied to other enforceable operating restrictions at the source. General limitations on potential to emit, such as yearly limits (e.g., in tons per year), by themselves, are not considered federally enforceable. The use of hourly, daily, weekly, or monthly rolling limits are generally acceptable. Any federally enforceable limitations or conditions must be enforceable as a practical matter, ensure continuous compliance with the restrictions, and include adequate testing, monitoring, and record keeping procedures sufficient to demonstrate compliance with the limitations or conditions of an applicable federally enforceable document described above. Fugitive emissions, to the extent quantifiable, are included in determining the potential to emit of a stationary source. Secondary emissions do not count in determining the potential to emit of a stationary source.

FEDERAL REGISTER (FR)

The Federal publication that lists notices of proposed and promulgated federal regulations.

FORMULATION

Any mixture containing an organic compound. A formulation is an organic material. **NOTE:** A formulation will not have a CAS number, because it is a mixture. However, the CAS number and chemical characteristics of each organic compound chemical included in the mixture will be found on the MSDS for the formulation provided by the supplier.

GHG ONLY FORM

When GHG emission reporting is required but this activity is not subject to SR emissions reporting; i.e. fugitive emissions for Natural Gas Distribution System.

GLOBAL WARMING POTENTIAL (GWP)

Global Warming Potential is a measure of the heat-trapping capacity of a given greenhouse gas relative to that of carbon dioxide. Carbon dioxide has a GWP of 1. The GWPs used in eDEP for GHG emission reporting are based on a 100-year time horizon from the Intergovernmental Panel on Climate Change's (IPCC) Fourth Assessment Report (AR4) (2007).

https://www.ipcc.ch/publications and data/ar4/wg1/en/ch2s2-10-2.html

HALOGENATED ORGANIC COMPOUND (HOC)

The following specific chemicals are reported as HOCs:

HALOGENATED ORGANIC COMPOUNDS (HOCs)

CAS#	Chemical Name
127184	Perchloroethylene (tetrachloroethylene)
75092	Methylene chloride (chloromethane)
75694	CFC-11 (trichlorofluoromethane)
75718	CFC-12 (dichlorodifluoromethane)
75456	CFC-22 (chlorodifluoromethane)
75467	FC-23 (trifluromethane)
76142	CFC-114 (dichlorotetrafluoroethane)
76153	CFC-115 (chloropentafluoroethane)

HAZARDOUS AIR POLLUTANT (HAP)

An air contaminant means an air contaminant designated by EPA under 42 U.S.C. 7412, as modified by EPA in 40 CFR Part 63, Subpart C (40 CFR 63.60 through 63.69).. HAPs are listed on the BAW AQ Total Emissions Statement (TES) & Hazardous Air Pollutants Form – Section C.

INSIGNIFICANT ACTIVITIES

Activities and their associated emissions that do not need to be reported in the source registration

- 1. Open burning conducted in accordance with the requirements of 310 CMR 7.07(2), (3)(a) and (3)(e);
- 2. Office activities and the equipment and implements used therein, such as typewriters, printers, and pens;
- 3. Interior maintenance activities and the equipment and supplies used therein, such as janitorial cleaning products and air fresheners; this does not include any cleaning of production equipment or activities regulated by 310 CMR 7.18;
- 4. Bathroom and locker room ventilation and maintenance;
- 5. Copying and duplication activities for internal use and for support of office activities at the facility;
- 6. The activities not regulated by 310 CMR 7.18 in maintenance shops, such as welding, gluing, soldering;
- 7. First aid or emergency medical care provided at the facility, including related activities such as sterilization and medicine preparation;
- 8. Laundry operations that service uniforms or other clothing used at the facility that are not regulated by 310 CMR 7.18;
- 9. Architectural maintenance activities conducted to take care of the buildings and structures at the facility, including repainting, reroofing, and sandblasting;
- 10. Exterior maintenance activities conducted to take care of the grounds of the facility, including parking lots and lawn maintenance;
- 11. Food preparation to service facility cafeterias and dining rooms;
- 12. The use of portable space heaters which reasonably can be carried and relocated by an employee;
- 13. Liquid petroleum gas (LPG) or petroleum fuels used to power the facility's mobile equipment and not otherwise regulated by the Department;
- 14. Emergency vents not subject to the accidental release regulations.
- 15. Non-process related surface coating and painting which exclusively use nonrefillable aerosol cans;
- 16. Vacuum cleaning systems used exclusively for commercial or residential housekeeping;
- 17. Ventilating systems used exclusively for heating and cooling buildings, for the comfort of people living or working within the building serviced by said system, which EPA has determined need not be contained in an operating permit;
- 18. Ventilating and exhaust systems for laboratories, including hoods, used:
 - a. by academic institutions for academic purposes.
 - b. by hospitals and medical care facilities used for medical care purposes and medical research only.:
 - c. by laboratories which perform laboratory scale activities as defined by OSHA, excluding commercial laboratories that provide laboratory services for third parties.
 - d. by facilities for quality assurance and quality control testing and sampling activities.
- 19. surface coating and printing processes used exclusively for educational purposes in educational institution excluding those emission units regulated by 310 CMR 7.18; and 20. kilns or ventilating hoods for art or ceramic curricula at colleges, primary or secondary schools.

LOWEST ACHIEVABLE EMISSION RATE (LAER)

LAER means, for any source, the more stringent rate of emissions based on the following:

- (a) The most stringent emissions limitation which is contained in any state SIP for such class or category of stationary source, unless the owner or operator of the proposed stationary source demonstrates that such limitations are not achievable; or
- (b) The most stringent emissions limitation which is achieved in practice by such class or category of stationary source. This limitation, when applied to a modification, means the lowest achievable emissions rate for the new or modified emissions units within a stationary source.

In no event shall LAER allow a proposed new or modified stationary source to emit any pollutant in excess of the amount allowable pursuant to applicable New Source Performance Standards of 40 CFR Part 60.

MAJOR FACILITY THRESHOLD

The emission threshold for being classified as a major facility. An owner/operator of a facility with potential to emit (PTE) equal to or greater than those listed below, is required to apply for an Air Operating permit pursuant to 310 CMR Appendix C, or obtain a restriction of their facility's potential to emit (PTE) an air contaminant pursuant 310 CMR 7.02(9) or a 25%/50% Certification pursuant to 310 CMR 7.02(11).

Pollutant	Major Source Threshold in Tons per Year (TPY)
VOC	Potential to emit 50 TPY
NO_X	Potential to emit 50 TPY
SO_2	Potential to emit 100 TPY
PM10	Potential to emit 100 TPY
PM2.5	Potential to emit 100 TPY
CO	Potential to emit 100 TPY
HAPS	Potential to emit 10 TPY of any one HAP
	OR
	25 TPY of all HAPs

MATERIAL SAFETY DATA SHEET (MSDS)

A fact sheet listing the chemical components and the chemical, physical, hazard, and toxic characteristics of any formulation or chemical compound. Chemical manufacturers are required to prepare MSDS sheets and ship them with each chemical product they sell.

NEW SOURCE PERFORMANCE STANDARDS (NSPS)

NSPS means Standards of Performance for New Stationary Sources adopted by the U.S. Environmental Protection Agency and contained in 40 CFR 60, and subsequent revisions as specified in the Regulations. Any emission testing to be compared with NSPS must be conducted in accordance with applicable procedures as specified in 40 CFR 60, or by another method which has been demonstrated to the satisfaction of the Department as being equivalent.

NUMBERING STACKS, POINTS, AND SEGMENTS

MassDEP's computer system that stores source registration data, automatically assigns numbers to a facility's stacks, points (emission units) and segments (fuels, organic materials, and other raw materials used in the emission unit).

The numbers the database assigns are always sequential and are automatically updated if a point, stack or segment is added at the facility. As a result, the number assigned to a particular point, stack or segment will not change from year to year, if a facility alters its equipment or raw materials.

However segment numbering is a little different than point and stack numbering. Points and stacks are assigned a unique number: there is only one stack assigned the number "1", only one stack assigned the number "2" etc. Similarly, regardless of what stack the point is assigned to, there is only one point assigned the number "1", only one point assigned the number "2", etc. However, segment numbering happens WITHIN a point, so a given segment number can be repeated.

For example:

The facility above uses one degreasing chemical: "Clene-Sol"; three different paints in the "Roll Coater": "red paint", "green paint" and "blue paint"; and two paints in "Spray Coater B" "yellow paint" and the same "red paint" that is used in the "Roll Coater".

Point #1 "Degreaser" would have one segment, numbered in the following way:

Segment #1: "Clene-Sol"

Point #2 "Roll Coater" would have three segments, numbered in the following way

Segment #1: "red paint"

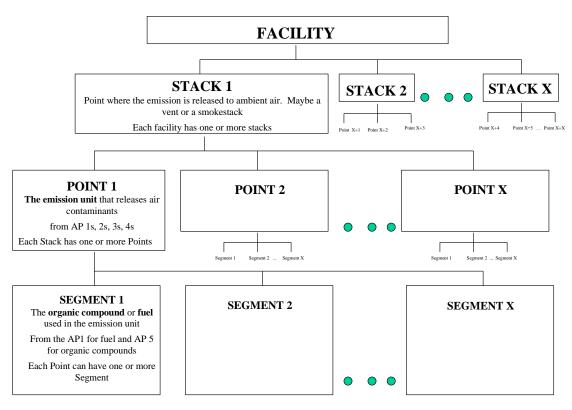
Segment #2: "green paint"

Segment #3: "blue paint"

Point #3 "Spray Coater B" would have two segments, numbered as follows:

Segment #1: "yellow paint"

ORGANIZATION OF FACILITY DATA ON THE COMPUTER PRINTOUT



Segment #2:"red paint"

NOTE: The example illustrates three important points.

- 1. Note that three different segments were assigned the number "1", and two different segments were assigned the number "2".
- 2. Note that even though the "red paint" is the exact same formulation, it still shows up as two
 - different segments because it is used in two different emission units.
- 3. Note that even though the "red paint" is the exact same formulation, it can be assigned two different segment numbers. (It could just as easily have been assigned # 1 in both Point #2 and Point #3, however, because "red paint" was entered first when the data for Point #2 was entered into the database, and was entered second when the data for Point #3 was entered into the database, "red paint" became Segment #1 in Point #2, and Segment #2 in Point #3.

ORGANIC COMPOUND

Any chemical compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbonates, metallic carbides, and ammonium carbonates.

NOTE: VOCs, HOCs, and HYCs are all Organic materials.

ORGANIC MATERIAL

Any organic chemical compound or mixture that contains an organic chemical compound. A formulation is an organic material.

NOTE: All VOCs, HOCs, and HYCs and mixtures containing VOCs, HOCs, or HYCs are organic materials.

OZONE SEASON

The 153 days from May 1 to September 30 (approx 22 weeks).

PERMITTED EMISSIONS

The maximum emissions allowed under the terms of the applicable permit, plan approval, or regulation.

PERMITTED BY RULE

<u>Plan Approval by Rule</u> (310 CMR 7.02(2)(b)24) is defined as an emission unit listed in 310 CMR 7.03 provided that the emission unit fully conforms to the design, operation, maintenance, and record keeping requirements of 310 CMR 7.03.

POINT

An emission unit.

POLLUTANT

An air contaminant regulated by MassDEP

POTENTIAL EMISSIONS

Potential emissions are the estimated emissions at a site. Potential emissions determine your facility's regulatory status and classification. Potential emissions also make it possible to estimate the worst-case ambient air quality in order to make a conservative estimate of the facility's impact on ambient air quality. The Source Registration program utilizes two types of potential emissions: unrestricted potential emission and maximum allowable, or restricted, potential emissions.

UNRESTRICTED POTENTIAL EMISSIONS

The uncontrolled emissions estimated at a facility assuming the facility operates continuously at maximum capacity. The potential emissions equal the emissions that would result if the facility:

- Emitted air contaminants at the maximum emissions rate per unit of product produced or unit of raw material used.
- ✓ While operating at the maximum capacity,
- ✓ For the maximum number of hours per year possible (8760 hours per year).

MAXIMUM ALLOWABLE OR RESTRICTED POTENTIAL EMISSIONS

The maximum allowable emissions under the terms of a federally enforceable plan approval or permit, or, if no plan approval or permit is required, under the applicable regulations. The potential emissions equal the emissions that would result if the facility:

- ✓ Emitted air contaminants at the maximum allowable emissions rate per unit of product produced or unit of raw material used,
- ✓ While operating at the maximum allowable capacity,
- ✓ For the maximum allowable number of hours per year possible. (8760 hours per year).

GROUND RULES:

A) When determining the MAXIMUM ALLOWABLE EMISSIONS RATE of each air contaminant:

- 1. The maximum emissions or emission rate may be restricted under a federally enforceable limit contained in a plan approval (BWPAQ-01, 02 or 03), Restricted Emission Status (BWPAQ-09), other permit (e.g., Prevention of Significant Deterioration (PSD)), regulation (e.g., restriction on the sulfur content of fuel in 310 CMR 7.05), or in a state or federal air pollution control regulation. If your plan approval or the applicable regulation specifies a maximum emission rate, use that rate to calculate your potential emissions.
- 2. Assume that the facility ONLY uses the fuel, the coating, or other raw material that generates the most pollution per amount used.

For example,

- ✓ If you are permitted to use natural gas and oil, assume you use nothing but natural gas when you calculate your potential NO_X emissions, and assume you use only oil when calculating your potential SO₂ emissions.
- ✓ If you are permitted to use three different coatings, and one has a VOC of 5 pounds per

gallon, another has a VOC content of 4 pounds per gallon and the third has a VOC content of 3 pounds per gallon, assume you only use the 5 pound per gallon formulation when calculating your potential VOC emissions.

Assume the facility operates any pollution control equipment required by a plan approval or a regulation in accordance with the terms of the plan approval or regulation.

For example,

✓ The facility plan approval specifies that the facility will operate a bag house that removes TSP at 95% efficiency, and the facility generates 100 pounds of pollution per 1000 pound of product produced before it is controlled. The maximum emission rate used to calculate potential emissions would equal 5.0% of 100 or 5 pounds per 1000 pounds of product produced.

CAUTION: If the owner/operator of a facility has installed air pollution control equipment voluntarily, (that is, there is no regulatory or plan approval requirement to install and operate the equipment) then the pollution control equipment may NOT be considered when determining the facility's potential emissions. The pollution control equipment does not reduce a facility's potential emissions because the facility is legally allowed to operate without the control equipment.

B) When determining the MAXIMUM OPERATING RATE and MAXIMUM ALLOWABLE HOURS OF OPERATION:

The maximum operating rate may be restricted under an enforceable limit contained in a plan approval (BWPAQ-01, 02 or 03), Restricted Emission Status (BWP AQ-09), other permit (e.g., Prevention of Significant Deterioration (PSD)), regulation (e.g., restriction on the hours of operation of an emergency generator in 310 CMR 7.02) or in a state or federal air pollution control regulation. These restrictions may be expressed as:

- ✓ Allowable capacity of the equipment
- ✓ Limits on the hours of operation
- ✓ Limits on the pounds or gallons of materials used

If such a restriction exists, use that restriction when calculating the maximum allowable or restricted potential emissions.

If the facility is NOT restricted by permit or regulation:

- ✓ The maximum operating rate is the maximum rate at which the equipment can be operated (e.g., the maximum firing rate of a boiler)
- ✓ The maximum hours of operation are 8760 (i.e., [24 hours per day] x [365 days per year]).
- C) When a PERMIT OR PLAN APPROVAL RESTRICTION APPLIES TO SEVERAL EMISSION UNITS but not the whole facility, you may divide that usage among the emission units, as you wish for purposes of this inventory. Please note that you have done so in the comment section of the form.

For example,

A facility has three boilers. Normally boilers 1 and 2 operate and boiler 3 is held in standby mode. The three boilers are restricted to burning 40,000 gallons of oil per month based on a 12 month rolling average. For purposes of completing this form, the facility may assume the fuel would be burned in equal amounts in boilers 1 and 2 for determining potential emissions. Alternatively, they may use any other formula to apportion the potential emissions to the different emission units.

NOTE: Apportioning the maximum allowed emissions among the emission units that share a restriction does NOT place a further restriction on your operating flexibility.

D) A facility may also have additional restrictions that LIMIT FACILITY-WIDE EMISSIONS. Facility-

wide potential emission equal the facility-wide limit imposed on the facility.

For example,

✓ If your facility has filed a certification form with the department pursuant to 310 CMR 7.02 (50% or 25% emission cap notification) potential emissions from your facility would equal 50% of the major threshold for the pollutants if your facility holds a 50% certification. Potential emissions would equal 25% of the threshold if your facility holds a 25% certification unless the facility has more stringent emission limits under plan approval(s).

REASONABLY AVAILABLE CONTROL TECHNOLOGY (RACT)

RACT means the lowest emission limitation that a particular facility is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.

RESPONSIBLE OFFICIAL (RO)

IF THE FACILITY HAS THIS TYPE OF OWNERSHIP:	THE RO MUST BE:
Sole proprietorship	The sole proprietor
Partnership	A general partner with the authority to bind the partnership
Corporation or a non-profit corporation	A corporate official with authority to bind the corporation such as a: ✓ President, ✓ Secretary, ✓ Treasurer, ✓ Vice president of the corporation in charge of a business function, ✓ Any other person who performs similar policymaking or decision-making functions of the corporation.
Municipality or other public agency	A principal executive officer A ranking elected official who is empowered to enter into contracts on behalf of the municipality or public agency.

SEGMENT

The fuel, organic material, or other raw material that is used in an emission unit, and whose use results in the release of air contaminants.

STACK

The stack is a vertical air emission release point whose height is greater than 10 feet above the roof of the building.

NOTE: Downward facing vents, horizontal vents, goosenecks, and fugitive releases are not "stacks". Also, some units exhaust vertically, but have housings shorter than 10 ft above the roof of the building (e.g., ventilation exhausts that may be 3-5 ft tall). For purposes of Source registration Reporting, this type of release point is not considered a stack.

VOLATILE ORGANIC COMPOUND (VOC)

VOLATILE ORGANIC COMPOUND is any compound of carbon that participates in atmospheric photochemical reactions. For the purpose of determining compliance, VOC is measured by the applicable reference test methods specified in 40 CFR 60. 310 CMR 7.00: VOLATILE ORGANIC COMPOUND includes all organic compounds EXCEPT the following:

includes all organic compounds EXCEPT the following.		
	Chemical Name	
67641	acetone,	
124685	AMP (2-amino-2-methyl-1-propanol)	
506876	ammonium carbonate,	
540885	t-butyl acetate	
630080	carbon monoxide,	
124389	carbon dioxide,	
463796	carbonic acid, N/A metallic carbides or carbonates,	
616386	dimethyl carbonate,	
N/A	metallic carbides or carbonates,	
74828	methane,	
74840	ethane,	
79209	methyl acetate,	
71556	methyl chloroform (1,1,1-trichloroethane),	
107313	methyl formate	
75092	methylene chloride, (dichloromethane),	
98566	parachlorobenzotrifluoride (PCBTF),	
127184	perchloroethylene (tetrachloroethylene),	
	propylene carbonate,	
108327		
75694 75710	CFC-11 (trichlorofluoromethane),	
75718	CFC-12 (dichlorodifluoromethane),	
75456	CFC-22 (chlorodifluoromethane),	
76131	CFC-113 (trichlorotrifluoroethane),	
76142	CFC-114 (dichlorotetrafluoroethane),	
76153	CFC-115 (chloropentafluoroethane),	
593704	HCFC-31 (chlorofluoromethane),	
306832	HCFC-123 (2,2-dichloro-1,1,1-trifluoroethane),	
354234	HCFC-123a (1,2-dichloro-1,1,2-trifluoroethane),	
2837890	HCFC-124 (2-chloro-1,1,1,2-tetrafluoroethane),	
1717006	HCFC-141b (1,1-dichloro-1-fluoroethane),	
75683	HCFC-142b (1-chloro-1,1-difluoroethane),	
1615754	HCFC-151a (1-chloro-1-fluoroethane),	
422560	HCFC-225ca (3,3-dichloro-1,1,1,2,2-pentafluoropropane),	
507551	HCFC-225cb (1,3-dichloro-1,1,2,2,3-pentafluoropropane),	
75467	HFC-23 (trifluoromethane),	
75105	HFC-32 (difluoromethane),	
354336	HFC-125 (pentafluoroethane),	
359353	HFC-134 (1,1,2,2-tetrafluoroethane),	
811972	HFC-134a (1,1,1,2-tetrafluoroethane),	
27987060	HFC-143a (1,1,1-trifluoroethane),	
75376	HFC-152a (1,1-difluoroethane),	
353366	HFC-161 (ethylfluoride),	
690391	HFC-236fa (1,1,1,3,3,3-hexafluoropropane),	
679867	HFC-245ca (1,1,2,2,3-pentafluoropropane),	
24270664	HFC-245ea (1,1,2,3,3-pentafluoropropane),	
431312	HFC-245eb (1,1,1,2,3-pentafluoropropane),	
460731	HFC-245fa (1,1,1,3,3-pentafluoropropane),	
431630	HFC-236ea (1,1,1,2,3,3-hexafluoropropane),	
431890	HFC-227ea (1,1,1,2,3,3,3-heptafluoropropane)	
406586	HFC-365mfc (1,1,1,3,3-pentafluorobutane),	
138495428	HFC 43-10mee (1,1,1,2,3,4,4,5,5,5-decafluoropentane),	
1691174	HFE-134 (HCF2OCF2H),	
78522471	HFE-236cal2 (HCF2OCF2OCF2H),	
10022711	THE E-2000AIZ (THOI 2001 2001 ZIT),	

188690780 HFE-338pcc13 (HCF2OCF2CF2OCF2H), 188690779 H-Galden 1040X or H-Galden ZT 130 (or 150 or 180), (HCF2OCF2OCF2CF2OCF2H), 375031 HFE-7000 or n-C3F7OCH3 (1,1,1,2,2,3,3-heptafluoro-3-methoxypropane), HFE-7100 or C4F9OCH3 (1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxybutane), 163702076 (CF3)2CFCF2OCH3 (2-(difluoromethoxymethyl)-1,1,1,2,3,3,3- hepta-fluoropropane), 163702087 HFE-7200 or C4F9OC2H5 (1-ethoxy-1,1,2,2,3,3,4,4,4- nonafluorobutane), 163702054 163702065 (CF3)2CFCF2OC2H5 (2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3- hepta-fluoropropane), HFE-7500 or HFE-s702 or T-7145 or L-15381 (3-ethoxy-1,1,1,2,3,4,4,5,5,6,6,6-297730939 dodecafluoro-2-(trifluoromethyl) hexane), 754121 HFO-1234yf (2,3,3,3-tetrafluoropropene), 29118249 HFO-1234ze (trans-1,3,3,3-tetrafluoropropene),

N/A Cyclic, branched, or linear, completely fluorinated alkanes,
N/A Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations,

N/A Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations,

N/A Cyclic, branched, or linear, completely methylated siloxanes, 102687650 SolsticeTM 1233zd(E) (trans-1-chloro-3,3,3-trifluoroprop-1-ene),

N/A Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to

carbon and fluorine.

APPENDIX B: LIST OF ACRONYMS

ACRONYM DEFINITIONS / EXPLANATIONS / COMMENTS

AP- 42 Reference to manual containing emission factors (https://www.epa.gov/chief)

APCE Air Pollution Control Equipment

AQ Air Quality

AQCR Air Quality Control Region

BACT Best Achievable Control Technology

BAW Bureau of Air & Waste

BTU or Btu British Thermal Unit - a measure of energy BAW AQ 01 Limited Plan Approval permit application

BAW AQ 02
Non-Major Comprehensive Plan Approval permit application
BAW AQ 03
Major Comprehensive Plan Approval permit application
BAW AQ 09
Restricted Emission Status Plan Approval permit application
BAW AQ CAA- HAPS
CAA List of hazardous air pollutants by chemical name with CAS#
Air Pollution reporting form or permit/plan approval application

CAA Clean Air Act

CAS Chemical Abstract Service

CFC(s) Chlorofluorocarbons - Class I ODC
CFR Code of Federal Regulation

CF Cubic Feet

CMR Code of Massachusetts Regulations

CO Carbon Monoxide

CPA Comprehensive Plan Approval

DEP Department of Environmental Protection - Massachusetts

DEQE Department of Environmental Quality Engineering, now MassDEP

EF Emission Factor

ENF Environmental Notification Form

EPA Environmental Protection Agency - Federal

EPCRA Emergency Planning and Community Right-to-Know Act

EU Emission Unit FC(s) Fluorocarbons FIL Filterable

FIP Federal Implementation Plan

FPS Feet per Second FR Federal Register

FT Feet

FUE Fuel Utilization Equipment
FUF Fuel Utilization Facility
GHG Greenhouse Gas
CMD Clobal Warming Petential

GWP Global Warming Potential HAP Hazardous Air Pollutants

HCFC Hydrochlorofluorocarbons - Class II ODS

HVLP High Volume Low Pressure
HOC Halogenated Organic Compounds

HYC Hydrocarbons ID Identification

LAER Lowest Achievable Emission Rate

LBS Pounds

LCON Code for the Regional Office LPA Limited Plan Approval

MACT Maximum Achievable Control Technology

Massachusetts Department of Environmental Protection (DEP)

MMBtu Million British Thermal Units

MMCF Million Cubic Feet

BAW Source Registration &/or Greenhouse Gas Instructions

APPENDIX B: ACRONYMS

Page 215 of 230 September 2018 MSDS Material Safety Data Sheet

NAAQS National Ambient Air Quality Standards
NAICS North American Industry Classification System

NESHAPS National Emission Standard for Hazardous Air Pollutants

NH3 Ammonia NO₂ Nitrogen Dioxide

NO_X Nitrogen Oxides - "knocks"

NSPS New Source Performance Standard ODS Ozone Depleting Substances

OP Operating Permit (310 CMR 7.00 (Appendix C))

PB Chemical abbreviation for Lead PCBTF Parachlorobenzotrifluoride PM Particulate Matter

PM10 Particulate Matter, 10 microns or smaller PM2.5 Particulate Matter, 2.5 microns or smaller

PPM Parts per Million

PSD Prevention of Significant Deterioration
RACT Reasonably Available Control Technology

RCRA Resource Conservation and Recovery Act: program that establishes hazardous waste management

rules

REC Recorder

RES Restricted Emission Status (310 CMR 7.02(9))

RVP Reid Vapor Pressure (for gasoline) SCC Source Classification Code

SEG Segment

SIC Standard Industrial Classification

SIP State Implementation Plan -- the federally approved regulations, permits and programs that

implement the Federal Clean Air Act in the State.

SNAP Significant New Alternative Policy SO2 Sulfur Dioxide – chemical abbreviation

SOX Sulfur Oxides - "socks" SR Source Registration

SRGHG Source Registration and Greenhouse Gas

TPY Tons per Year

TSP Total Suspended Particulates
TURA Toxics Use Reduction Act
USGS United States Geological Survey
VMS Volatile Methyl Siloxanes
VOC(S) Volatile Organic Compounds

WGT Weight YR Year

APPENDIX C: CALCULATIONS

SECTION C.1: ESTIMATING EMISSIONS

SECTION C.1.1: BASIC METHODOLOGY

Apply the formula below to calculate actual and potential emissions

ACTUAL EMISSIONS for ALL facilities are determined by substituting the actual amount of raw material used for the maximum possible hours per year and the maximum capacity as follows:

ACTUAL EMISSIONS = [APPROPRIATE EMISSION FACTOR] x [ACTUAL RAW MATERIALS USED or ACTUAL HOURS OF OPERATION] x [percent of EMISSIONS NOT CONTROLLED BY AIR POLLUTION CONTROL EQUIPMENT REQUIRED PURSUANT TO A PLAN APPROVAL OR REGULATION]

POTENTIAL EMISSIONS are determined from the following equation:

• IF your facility does NOT have an operating restriction

POTENTIAL EMISSIONS = [EMISSION FACTOR] x [MAXIMUM CAPACITY] x [8760 hours of operation per year]

NOTE: 8760 hours per year = (365 days per year) x (24 hours per day)

Example Calculations: Formulas and Example calculations for Process Emissions are provided in Section C.1.2 below. Section C.1.3 has formulas, emission factors, and sample calculations for fuel utilization facilities.

SECTION C.1.2: EXAMPLE CALCULATIONS FOR PROCESS EMISSIONS (FOR SR EMISSIONS REPORTING)

This section is divided into two parts:

- Section C.1.2.1 Example Calculations for Coating Operations Using VOC Coatings
- Section C.1.2.2 Example Calculations for Other Process Emissions.

	TABLE C.1.2-1			
Wood Products Surface Coating Paint Spray Booth				
EMISSION UNIT DESCRIPTION:	MAXIMUM CAPACITY & EQUIPMENT DESIGN: -Spray gun: 3.0 gallons per hour -Paint: The paint with the highest VOC concentration AS APPLIED contains 5.5 pounds of VOC per gallon NOTE ON "AS APPLIED": When calculating VOC emissions, you need to include the VOCs in the coating as purchased as well as any solvents you add to thin it. Thus the MSDS may say that the paint had 5 pounds of VOCs per gallon, but the as applied number is 5.5 lbs. per gallon because of added solvents. You also need to include any solvents you used to clean the production equipment.			
	The paint with the highest solids concentration has 3.5 pounds of solids per gallon of paint -90% overspray ACTUAL OPERATIONS: 5678 gallons of paint as applied (paint plus solvent thinner) used			
POLLUTANT	EXAMPLE CALCULATIONS			
VOC POTENTIAL EMISSIONS	[3.0 gallons of paint & thinner applied per hour] x [5.5 pounds of VOC per gallon of applied paint] x [8760 hours per year] x [1 ton / 2000 pounds] = 72.3 tons VOC year			
	*The emission factor for VOCs = All of the VOCs in the applied paint and solvent thinners become VOC emissions			
	Alternatively you can use the formula:			
	[{(Gallons of paint used AS PURCHASED per hour) X (pounds of VOC per gallon AS PURCHASED)} + {(gallons of paint thinner applied per hour) X (pounds of VOC per gallon of paint thinner)}] x [8760 hours per year] x [1 ton / 2000 pounds] = tons VOC per year			
ACTUAL EMISSIONS	[5678 gallons of as applied paint used] x [5.5 pounds of VOC per gallon] x [1ton / 2000 lbs.] = 15.6 tons			
	You can also use the alternative formula:			
	[{Gallons of paint used (as purchased)} x {pounds of VOC per gallon (as purchased)}] + [{gallons of solvent thinner used} x {pounds of VOC per gallon of solvent thinner}]			
PARTICULATE (TSP)				
POTENTIAL EMISSIONS	[3.0 gallons of paint (as applied) per hour] x [3.5 pounds of solids per gallon (as applied)] x [0.90 (the weight fraction of the paint that is over sprayed)] x [8760 hours per year] x [1 ton / 2000 pounds] = 41.4 tons			
	* The emission factor for spray painting equals the amount of solids in the paint as applied multiplied by the weight fraction of the paint that is over sprayed.			
ACTUAL EMMISIONS	[5678 gallons of paint used] x [3.5 pounds of solids per gallon] x [0.90 (the weight fraction of the paint that is over sprayed] x [1ton / 2000 lbs.] = 8.9 tons			

TABLE C.1.2-3:

Formulas For "Other Process Emissions":

NOTE: You must obtain the applicable emission factors from stack testing, your permit or plan approval for emission units, the applicable regulations, or, if no other information is available, from EPA's AP-42/FIRE Emission Factors https://www.epa.gov/chief

POTENTIAL EMISSIONS

[Maximum processing capacity in lbs. per hour] x [Emission Factor (lbs. of contaminant emitted per lb. of raw material processed] x [8760 hours of operation per year] x 1 ton/ 2000 lbs. = tons of contaminant emitted per year.

ACTUAL CONTAMINANT EMISSIONS [Actual pounds of raw material processed in lbs.] X [Emission factor in lbs. of contaminant per pound of raw material processed] x [1 ton / 2000 lbs. = tons of contaminant emissions

SECTION C.1.3: FORMULAS AND SAMPLE CALCULATIONS FOR FUEL UTILIZATION FACILITIES

This section is divided into three parts:

- ✓ Section C.1.3.1: Formulas for Estimating Emissions from Fuel Utilization Facilities using Emission Factors
- ✓ Section C.1.3.2: Example Calculations for a Boiler

Section C.1.3.1: Formulas for Estimating Emissions from Fuel Utilization Facilities using Emission Factors

Table C.1.3-1 presents formulas using emissions factors to estimate potential emissions from fuel utilization facilities. There is separate formula for each criteria pollutant, and for when enforceable operating limits exist, and for when they do not exist.

CAUTION ON USING EMISSION FACTORS: There are various sources for emission factors. When calculating potential emissions you MUST use the emission factors developed through stack testing data or if your facility has never been required to conduct a stack test for the emission unit, the emissions limit established as part of your permit or plan approval, emission limits your facility is subject to pursuant to regulations or, if none of the former conditions exist, emission factors from EPA's FIRE Database or AP-42 Emission factors. **NOTE** that the FIRE database is mostly based on the AP-42 Sections and is an easier tool for looking up emission factors. For the most up-to-date FIRE emission factors, please see EPA's website at https://www.epa.gov/chief.

TABLE C.1.3-1 Formulas for calculating Potential and Actual Emissions from Fuel Utilization Facilities using Emission Factors		
Air Contaminant	Formula for Estimating Emissions	
PARTICULATE MATTER, PM10 and PM2.5		
POTENTIAL EMISSIONS	[EMISSION FACTOR (in lbs. of TSP, PM10 or PM2.5 per 1000 gallons of fuel)] x [% S in the fuel*] x [Maximum rated gallons of fuel per hour / 1000 gallons of fuel] x [8760 hours per year] x [1 ton / 2000 lbs.] = Tons of TSP, PM10 or PM2.5 per year	
	NOTE : Particulate emissions can also be calculated from the lbs. of particulate generated per million BTU (MMBtu) heat release potential of the fuel. The example calculations in Table C.1.3-3 below use this method. The formula is:	
	[EMISSION FACTOR (in lbs. of TSP, PM10 or PM2.5 per MMBtu)] x [(BTU's per gallon of fuel**) / 1,000,000 BTU's] x [maximum rated or maximum allowable gallons of fuel per hour] x [maximum allowed or 8760 hours of operation per year] x [1 ton / 2000 lbs.] = Tons of TSP, PM10 or PM2.5 per year. *% S in fuel can be found in fuel analysis **BTU's per gallon of fuel can be found in Table C.1.3-2	
ACTUAL EMISSIONS	[EMISSION FACTOR (in lbs. of TSP, PM10 or PM2.5 per 1000 gallons of fuel)] x [% S in the fuel*] x [gallons of fuel used during the year / 1000] x [1 ton / 2000 lbs.] = Tons of TSP, PM10 or PM2.5 per year or	
	[EMISSION FACTOR (in lbs. of TSP, PM10 or PM2.5 per MMBtu)] x [(BTU's per gallon of fuel**) / 1,000,000 BTU's] x [gallons of fuel used during the year] x [1 ton / 2000 lbs.] = Tons of TSP, PM10 or PM2.5 per year	

September 2018

TABLE C.1.3-1 Formulas for calculating Potential and Actual Emissions from Fuel Utilization Facilities using Emission Factors			
Air Contaminant	Formula for Estimating Emissions		
SOX POTENTIAL EMISSIONS	[EMISSION FACTOR for 1000 gallons of fuel] x [% S in the fuel*] x [Maximum rated gallons of fuel per hour / 1000] x [8760 hours per year] x [1 ton / 2000 lbs.] = Tons of SO _x per year		
	NOTE : S0 _X emissions can also be calculated from the lbs. of sulfur in the fuel per million BTU (MBTU) heat release potential of the fuel. The example calculations in Table C.1.3-3 below use this method. The formula is:		
	[Lbs. S in the fuel per MMBtu] x [2 (the lbs. of S0 x emitted per lb. of Sulfur in the fuel] x [(BTU's per gallon of fuel**) / 1,000,000 BTU's] x [maximum rated or maximum allowable gallons of fuel per hour] x [maximum allowed or 8760 hours of operation per year] x [1 ton / 2000 lbs.] = Tons of SO x per year		
	*% S in fuel can be found in fuel analysis **BTU's per gallon of fuel can be found in Table C.1.3-2		
SOx ACTUAL EMISSIONS	EMISSION FACTOR (in lbs. per 1000 gallons of fuel)] x [% S in the fuel] x [gallons of fuel used during the year / 1000] x [1 ton / 2000 lbs.] = Tons of SOX per year		
	Or [EMISSION FACTOR (in lbs. S in the fuel per MMBtu)] x [2 (the lbs. of S0 $_X$ emitted per lb. of Sulfur in the fuel] x [(BTU's per gallon of fuel) / 1,000,000 BTU's] x [gallons of fuel used during the year] x [1 ton / 2000 lbs.] = Tons of S0 $_X$ per year		
NOx, VOC, CO, PB, NH3 POTENTIAL EMISSIONS	[EMISSION FACTOR (in lbs. Per 1000 gallons)] x [Maximum rated gallons of fuel per hour / 1000] x [8760 hours per year] x [1 ton / 2000 lbs.] = Tons of Contaminant per year		
ACTUAL EMISSIONS	[EMISSION FACTOR] x [gallons of fuel used during the year / 1000] x [1 ton / 2000 lbs.] = Tons of Contaminant per year		

Section C.1.3-2 Oil Heat Values

TABLE C.1.3-2 Oil Heat Values				
FUEL TYPE	SULFUR CONTENT % by weight	(S) lbs. per million MMBTU	HEAT VALUE BTU per gallon	
NO. 6	1% 2.2% 0.5%	0.55 1.21 0.28	147,000 150,000 142,000	
NO. 4 or 5	0.5%	0.28	142,000	
NO. 5	1%	0.55	147,000	
NO. 1 or 2	0.3%	.17	140,000	

TABLE C.1.3-3		
	Example Calculations For A BOILER	
EMISSION UNIT DESCRIPTION:	 Over 3 MMBtu per hour heat input capacity Particulate emission factor of 0.15 lb. per MMBtu 1% Sulfur in fuel Residual Oil # 6 fuel 2 boilers each with a maximum capacity of 23 gallons per hour Maximum possible fuel use: (2 boilers x 23 gallons per hour x 8760 hours per year = 402,960 gallon per year Residual Oil # 6 therefore 147,000 BTU per gallon heat value (from Table C.1.3-2) 1% sulfur content therefore 0.55 lbs. of sulfur per million BTU heat release potential (from Table C.1.3-2). Actual fuel use = 123,456 gallons 	
POTENTIAL PARTICULATE EMISSIONS	[0.15 lbs. particulate per MMBtu] x [23 gallons of fuel per hour x 2 boilers x 8760 hours per year of fuel] x [147,000 BTU per gallon of fuel / 1,000,0000 BTU] x [1 ton / 2000 lbs.] = 4.4 tons particulates per year	
POTENTIAL PM10 EMISSIONS	[7.18 lbs. PM10 per 1000 gallons of fuel] x [1 (percent S in fuel)] x [23 gallons of fuel per hour x 2 boilers x 8760 hours per year of fuel] x [1 ton / 2000 lbs.] = 1.57 tons PM10 per year	
POTENTIAL SO _X EMISSIONS	[0.55 lbs. S in fuel per MMBtu] x[2 lbs SO ₂ per lb S] x [23 gallons of fuel per hour x 2 boilers] x 8760 hours per year] x [147,000 BTU per gallon of fuel / gal] x [1 ton / 2000 lbs.] = 32.6 Tons SO _x per year	
POTENTIAL NOX EMISSIONS	[55.0 lbs. NO _x per 1000 gallons of fuel] x [23 gallons of fuel per hour x 2 boilers / 1000 gallons of fuel] x [8760 hour per year] x [1 ton / 2000 lbs.) = 11.08 tons NO _x per year	
POTENTIAL VOC EMISSIONS	[1.13lbs. VOC per 1000 gallons of fuel] x [23 gallons of fuel per hour x 2 boilers / 1000 gallons of fuel] x [8760 hours per year] x [1 ton / 2000 lbs.] = 0.23 tons of VOC per year	
POTENTIAL CO EMISSIONS	[5.0 lbs. CO per 1000 gallons of fuel] x [23 gallons of fuel per hour x 2 boilers / 1000 gallons of fuel] x [8760 hours per year] x [1 ton / 2000 lbs.] = 1.01 tons of CO per year	
POTENTIAL LEAD EMISSIONS	[0.0042 lbs. Lead per 1000 gallons of fuel] x [23 gallons of fuel per hour x 2 boilers / 1000 gallons of fuel] x [8760 hours per year] x [1 ton / 2000 lbs.] = 0.000846 tons of Lead per year	

TABLE C.1.3-3		
	Example Calculations For A BOILER	
EMISSION UNIT DESCRIPTION:	 Over 3 MMBtu per hour heat input capacity Particulate emission factor of 0.15 lb. per MMBtu 1% Sulfur in fuel Residual Oil # 6 fuel 2 boilers each with a maximum capacity of 23 gallons per hour Maximum possible fuel use: (2 boilers x 23 gallons per hour x 8760 hours per year = 402,960 gallon per year Residual Oil # 6 therefore 147,000 BTU per gallon heat value (from Table C.1.3-2) 1% sulfur content therefore 0.55 lbs. of sulfur per million BTU heat release potential (from Table C.1.3-2). Actual fuel use = 123,456 gallons 	
ACTUAL EMISSIONS	To utilize the above calculation in determining ACTUAL emissions, substitute "ACTUAL GALLONS BURNED per year / 1000" for "[gallons per hour x # of boilers / 1000] x [8760 hours per year]"	
ACTUAL EMISSIONS PARTICULATE	[0.15 lbs. particulate per MMBtu] x [123,456 gallons of fuel per year] x [147,000 BTU per gallon / 1,000,0000 BTU] x [1 ton / 2000 lbs.] = 1.4 tons particulates per year	
ACTUAL EMISSIONS PM10	[0.8lbs. PM10 per 1000 gallons of fuel] \times [1 (%S in the fuel)] \times (123, 456 gallons of fuel used / 1000 gallons of fuel] \times (1 ton / 2000 lbs.) = 0.5 tons PM10 per year	
Actual Emissions PM2.5	[4.67lbs PM2.5 per 1000 gallons of fuel] x [1.12 (1%S in the fuel)+.37) x (123,456 gallons of fuel used / 1000 gallons of fuel] x (1 ton/2000 lbs)= 0.43 tons PM2.5 per year	
ACTUAL EMISSIONS SO _X	[0.55 lbs. S per MMBtu x [2 (lbs. of SO_{Xper} lb. of S in fuel)] x [147,000 BTU per gallon of fuel / 1,000,0000 BTU] x [123,456 gallons of fuel used] x [1 ton / 2000 lbs.] = 10 tons SO_X per year	
ACTUAL EMISSIONS NO _X	[55.0 lbs. NO _x . per 1000 gallons of fuel] x (123, 456 gallons of fuel used / 1000 gallons of fuel] x (1 ton / 2000 lbs.) = 3.4 tons NO _x per year	
ACTUAL EMISSIONS VOC	[1.13 lbs. VOC per 1000 gallons of fuel] x (123, 456 gallons of fuel used / 1000 gallons of fuel] x (1 ton / 2000 lbs.) = 0.1 tons of VOC per year	
ACTUAL EMISSIONS CO	[5.0 lbs. CO per 1000 gallons of fuel] x [123, 456 gallons of fuel used / 1000 gallons of fuel] x (1 ton / 2000 lbs.) = 0.3 tons CO per year	
ACTUAL EMISSIONS LEAD	[0.0042 lbs. LEAD per 1000 gallons of fuel] x [123, 456 gallons of fuel used / 1000 gallons of fuel] x (1 ton / 2000 lbs.) = 0.0003 tons LEAD per year	

SECTION C.1.4: EXAMPLE CALCULATIONS FOR GHG EMISSIONS

Table C.1.4-1 presents formulas using emissions factors to estimate greenhouse gas emissions from fuel utilization facilities. There is separate formula for each greenhouse gas.

TABLE C.1.4-1 Formulas for calculating Actual GHG Emissions from Fuel Utilization Facilities using Emission Factors		
Air Contaminant	Formula for Estimating Emissions	
CO2, CH4, N2O ACTUAL EMISSIONS	[EMISSION FACTOR (in lbs. of CO2, CH4, or N2O per 1000 gallons of fuel)] x [gallons of fuel used during the year / 1000] x [1 ton / 2000 lbs.] = Tons of Contaminant per year	

SECTION C.2: THE WEIGHT OF THE VOC, HOC, OR HYC CONTROLLED

The Weight of the VOC, HOC, or HYC Controlled is the amount of the VOC, HOC or HYC that is destroyed in the treatment unit. It equals:

(WEIGHT of the VOC, HOC, or HYC USED) X (OVERALL [treatment] EFFICIENCY) [Calculations shown below]

"THE WEIGHT OF THE VOC, HOC, or HYC USED" equals

(POUNDS of HOC, VOC or HYC used in FORMULATION) + (POUNDS of HOC, VOC, or HYC used in SOLVENT THINNER).

[Calculation B below]

CALCULATION A: The pounds of HOC, VOC, or HYC used in the formulation is calculated as follows:

1) Convert the total annual gallons of the formulation used to pounds:

(GALLONS of the formulation USED) X (DENSITY of the formulation) = TOTAL POUNDS of formulation USED

2) Determine the pounds of HOC, VOC or HYC used in the formulation:

(TOTAL POUNDS of formulation USED) X (WEIGHT % of the HOC, VOC, or HYC in the formulation)* = TOTAL POUNDS of HOC, VOC, or HYC used in the formulation

*[The weight % will equal 1 if the formulation is from organic compounds. The weight % of the HOC, VOC, or HYC can be found on the formulation component MSDSs]

CALCULATION B: The amount of the HOC, VOC or HYC from use of solvent thinners is calculated as follows:

1) Convert the gallons of solvent thinner used to pounds

(GALLONS of the solvent thinner USED) X (DENSITY of the solvent thinner) = POUNDS of solvent thinner used

Determine the pounds of HOC, VOC, or HYC used in solvent thinner

(POUNDS of solvent thinner USED) X (WEIGHT % of the HOC, VOC, or HYC in the solvent thinner)* = POUNDS of HOC, VOC, or HYC in solvent thinner

*[The weight % will equal 1 if the solvent thinner is an organic compound. The weight % of the HOC, VOC, or HYC can be found on the MSDS if the solvent thinner is a mixture]

APPENDIX D: AIR POLLUTION CONTROL EQUIPMENT CODES

Control Equipment Identification Codes: Control equipment is used to limit the emission of pollutants to the atmosphere. Numerous types of control equipment may be in place at a facility. For emission statement reporting, your facility is required to report the primary and secondary control equipment. The following list details the different active control equipment and their appropriate code.

139 - SCR (SELECTIVE CATALYTIC REDUCTION) 019-CATALYTIC AFTERBURNER 140 - SNCR (SELECTIVE NONCATALYTIC REDUCTION) 020-CATALYTIC AFTERBURNER WITH HEAT EXCHANGER 141 - WET SCRUBBER 021-DIRECT FLAME AFTERBURNER 022-DIRECT FLAME AFTERBURNER WITH HEAT EXCHANGER 146 - WET ELECTROSTATIC PRECIPITATOR 023-FLARING 147 - INCREASED AIR/FUEL RATIO WITH INTERCOOLING 025-STAGED COMBUSTION 149 - PRE-COMBUSTION CHAMBER 026- FLUE GAS RECIRCULATION029- LOW EXCESS AIR FIRING 154 - SCREENED DRUMS OR CAGES 031-AIR INJECTION 157 - SCREEN 035-MAGNESIUM OXIDE SCRUBBING 201 - KNOCK OUT BOX 036-DUAL ALKALI SCRUBBING 202 - SPRAY DRYER 038-AMMONIA SCRUBBING 203 - CATALYTIC CONVERTER 041-DRY LIMESTONE INJECTION 204 - OVERFIRE AIR 042-WET LIMESTONE INJECTION 205 - LOW NOX BURNER (LNB) 206 - DRY SORBENT INJECTION (DSI, OTHER THAN ACI) 045-SULFUR PLANT 207 - ACTIVATED CARBON INJECTION (ACI) 046-PROCESS CHANGE 048-ADSORPTION - ACTIVATED CARBON OR OTHER 208 - FREEBOARD REFRIGERATION DEVICE 049-LIQUID FILTRATION SYSTEM 209 - GRAVITY COLLECTOR 050-PACKED-GAS ABSORPTION COLUMN 211 - MIST ELIMINATOR 051-TRAY-TYPE GAS ABSORPTION COLUMN 212 - STEAM INJECTION 052-SPRAY TOWER 213 - WATER INJECTION 054-PROCESS ENCLOSED 214 - LOW NITROGEN CONTENT FUEL 056-DYNAMIC SEPARATOR (DRY) 215 - FLUE GAS DESULFURIZATION (FGD) 057-DYNAMIC SEPARATOR (WET) 217 - DUST SUPPRESSION 058-MAT OR PANEL FILTER 218 - ELECTROSTATIC SPRAYING 059-METAL FABRIC FILTER SCREEN (COTTON GINS) 301 - FUEL REBURNING 060-PROCESS GAS RECOVERY 302 - BIOFILTER 303 - CATALYTIC ADDITIVES 063-GRAVEL BED FILTER 064-ANNULAR RING FILTER 304 - ENCLOSED COMBUSTER 065-CATALYTIC REDUCTION 305 - DIELSEL PARTICULATE FILTERS (DPF) 066-MOLECULAR SIEVE 306 - DUCT SORBENT INJECTION 067-WET LIME SLURRY SCRUBBING 307 - FURNACE SORBENT INJECTION 308 - WET SORBENT INJECTION 068-ALKALINE FLY ASH SCRUBBING 069-SODIUM CARBONATE SCRUBBING 309 - LEAK DETECTION AND REPAIR (LDAR) PROGRAM 070-SODIUM-ALKALI SCRUBBING 310 - NON-SELECTIVE CATALYTIC REDUCTION (NSCR) 075-CYCLONE / CENTRIFUGAL COLLECTOR 311 - OTHER POLLUTION PREVENTIVE TECHNIQUE 079-DRY ELECTROSTATIC GRANULAR FILTER (DEGF) 312 - OXIDATION CATALYST 082-OZONATION 313 – SPRAY BOOTH and FILTER 085-WET CYCLONIC SEPARATOR 314 - SPRAY BOOTH and OVERSPRAY ARRESTOR 086-WATER CURTAIN 087-NITROGEN BLANKET 316 - ULTRA LOW NOX BURNERS (ULNB) 088-CONSERVATION VENT 317 - RECUPERATIVE THERMAL OXIDIZER 089-BOTTOM FILLING 318 - PRODUCT SUBSTITUTION 093-SUBMERGED FILLING 319 – REGENERATIVE THERMAL OXIDIZER 320 - COMBUSTION DEVICE 095-WHITE PAINT 321 - COVER VENTED TO CONTROL DEVICE 096-VAPOR LOCK BALANCE RECOVERY SYSTEM 097-SECONDARY SEAL ON FLOATING ROOF TANK 322 – EXTERNAL FLOATING ROOF TANK 323 - FIXED ROOF TANK 099-OTHER CONTROL DEVICE 324 - FIXED ROOF TANK VENTED TO CONTROL DEVICE 101-HIGH EFFICIENCY PARTICULATE AIR FILTER

315 - SPRAY GUNS - HIGH VOLUME, LOW PRESSURE (HVLP) 102 - LOW SOLVENT COATINGS 325 - FIXED ROOF TANK WITH INTERNAL FLOATING ROOF 103 - POWDER COATINGS 326 - FLOATING MEMBRANE COVER 104 - WATERBORNE COATINGS 327 – FLOATING ROOF 328 - INTERNAL FLOATING ROOF 109- CATALYTIC OXIDIZER / INCINERATOR 329 - MULTIPLE CONTROLS IN SERIES 110 - VAPOR RECOVERY UNIT 330 – PRESSURIZED TANK 112 - AFTERBURNER 331 - PROCESS MODIFICATION 113 - ROTOCLONE 119 - DRY SCRUBBER 332 - VAPOR BALANCING September 2018

BAW Source Registration &/or Greenhouse Gas Instructions APPENDIX D: Air Pollution Control Equipment Codes Page 227 of 230

121 - CYCLONES (MULTIPLE)

127 - FABRIC FILTER

128 - ELECTROSTATIC PRECIPITATOR - DRY (DESP)

132 - CONDENSER

133 - THERMAL OXIDIZER / INCINERATOR

333 - THERMAL CATALYTIC OXIDIZER WITHOUT HEAT RECOVERY

334 – ROTARY BED PROTECTOR 335 – PROCESS INCINERATION IN ONSITE UNIT (100% OF EXHAUST GAS) 336 - PROCESS INCINERATION IN ONSITE UNIT (<100% OF EXHAUST GAS) 337 - THERMAL CATALYTIC OXIDIZER

APPENDIX E: EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

Information concerning the National Emission Standards for Hazardous Air Pollutants (NESHAPs) can be found on the USEPAs Technology Transfer Network – Air Toxics Website: Rules and Implementation webpage at:

https://www3.epa.gov/ttn/atw/eparules.html

Not only does this webpage have a link to the Emission Standards for Hazardous Pollutant webpage (discussed below), it also contains links to various webpages that discusses Rule Information (such as Residual Risk/Technology Rules, Area Source Standards, New Source Performance Standards (NSPS), Solid Waste Rules, and other portions of the CAA), Implementation Information (PTE, the Consolidated Air Rule (CAR), and Compliance Assurance Monitoring (CAM)), Urban Air Toxics Strategy, and the CAA Air Toxic Requirements.

The Emission Standards for Hazardous Pollutant webpage is located at the following URL:

https://www.epa.gov/stationary-sources-air-pollution/national-emission-standards-hazardous-air-pollutants-neshap-9

This page list the NESHAP or MACT standard, by source category, providing the applicable rule subpart, the date and citation the rule was published in the CFR, the compliance date, and the EPA Project Lead and Compliance Lead contact information. In addition, on this page, there is a link to the actual rule page which provides information on the proposed rule, comments to the proposed rule, amendments to the proposed rule, the final rule, background information documents (BIDs) pertaining to the rule, and Technical Fact Sheets pertaining to the rule.

APPENDIX F: MassDEP REGIONAL OFFICES

MASSDEP REGIONAL FACILITY MASTER FILE (FMF) CONTACTS

Information on MassDEP programs, permits, applications, forms and fees can be found on our website at https://www.mass.gov/orgs/massachusetts-department-of-environmental-protection

Questions about your Annual Compliance Fee

For specific information about your Annual Compliance Fee invoices and payments, please e-mail us at dep.compliance-fees@state.ma.us or call our *Helpline at 1-888-846-4067*.

To Find the MassDEP regional office that serves your city/town

If you have questions regarding your facility permit status or other regulatory requirements at your facility, contact your regional office. You can determine your regional contact information, location and other useful information at http://mass.gov/dep/about/regional.htm.